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OCTOBER 17, 2005 VOL 39 NO 42 $5/COPY

Users Rush to Plug Microsoft's Holes

Fears of new worms, fast release of exploit code spur action by IT

BY JAIKUMAR VIJAYAN

The availability of code capable of exploiting a critical vulnerability in Windows 2000 — just one day after the flaw was disclosed as part of Microsoft Corp.'s monthly security updates last Tuesday — lent urgency to efforts by IT managers to patch their systems as quickly as possible.

For instance, the American Red Cross, which in August saw traffic on its networks become saturated by the Zotob worm, was already deploying Microsoft's latest patches last week, according to Ron Baklarz, chief information security officer at the Washington-based relief organization.

"We have dramatically improved our procedures to improve on our patch implementation time," Baklarz said without elaborating. He added

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MORE ON SECURITY

- A Cisco exec defends the vendor's efforts to stop a security researcher from talking about an exploit of a router software flaw.

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Battling Complexity

SPECIAL REPORT

IT managers face the chaos of overseeing thousands of elements in their storage architectures. We evaluate four technologies to see if they really simplify the job.

Stories begin on page 51.

Drowning in data?
Get our new Executive Briefing on storage management strategies.
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Data on Interex Members For Sale to Highest Bidder

BY PATRICK THIBODEAU

The trustee overseeing the now-defunct Interex user group's remaining assets plans to sell its membership database to the highest bidder to help satisfy the demands of the group's creditors, according to a bankruptcy court notice.

Interex claimed about 100,000 members before closing down in July and then filing for Chapter 7 bankruptcy protection the following month in U.S. Bankruptcy Court for the Northern District of California. The court notice about the upcoming sale of the membership database was dated Oct. 5, but news of the plan just reached some former members of the independent Hewlett-Packard Co. user group last week.

According to the court filing, trustee Carol W. Wu has received an offer of $15,000 for

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Execs Use Services Model to Reshape IT Units

Data center managers credit ITIL for helping to make their operations more effective, efficient

BY PATRICK THIBODEAU
CHICAGO

Several years ago, the state of the help desk at GuideStone Financial Resources could be summed up by what end users called it: "the helpless desk." Not only was the moniker unflattering, it reflected lingering system problems that hurt the investment management firm's employee productivity.

With that in mind, the IT department at Dallas-based GuideStone, which is owned by the Southern Baptist Convention, turned to the Information Technology Infrastructure Library standard. One of the driving goals of ITIL is to reshape IT operations into a services model by spelling out service levels and detailed processes for delivering, managing and supporting technology.

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Proponents say the standard can help cut IT costs and improve alignment with business units, which may explain the interest in it among IT managers at a conference held here last week by AFCOM, an Orange, Calif.-based professional association that focuses on data center issues.

Dawn Sawyer, operations manager at GuideStone, said that she began implementing ITIL processes four years ago and that the work is still in

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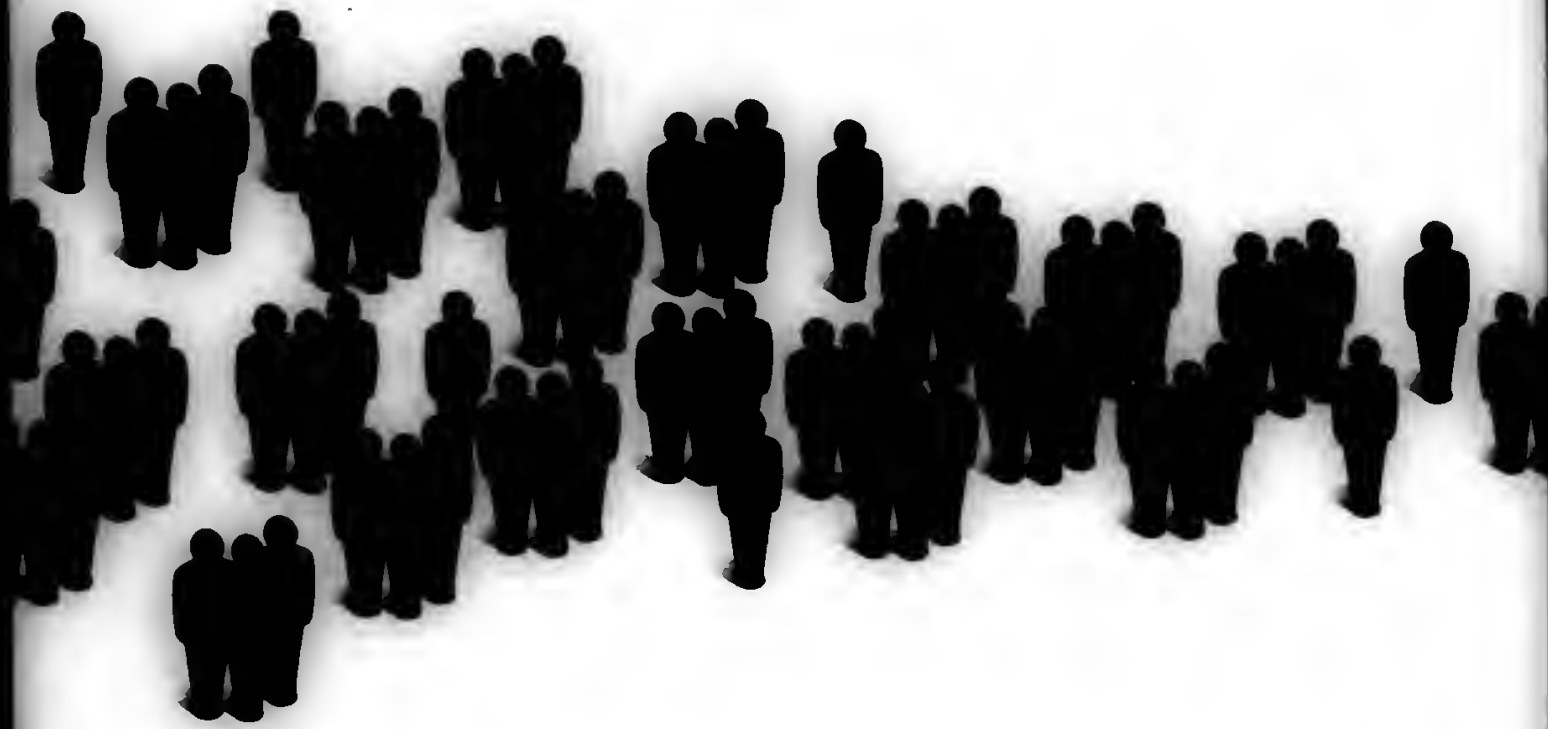

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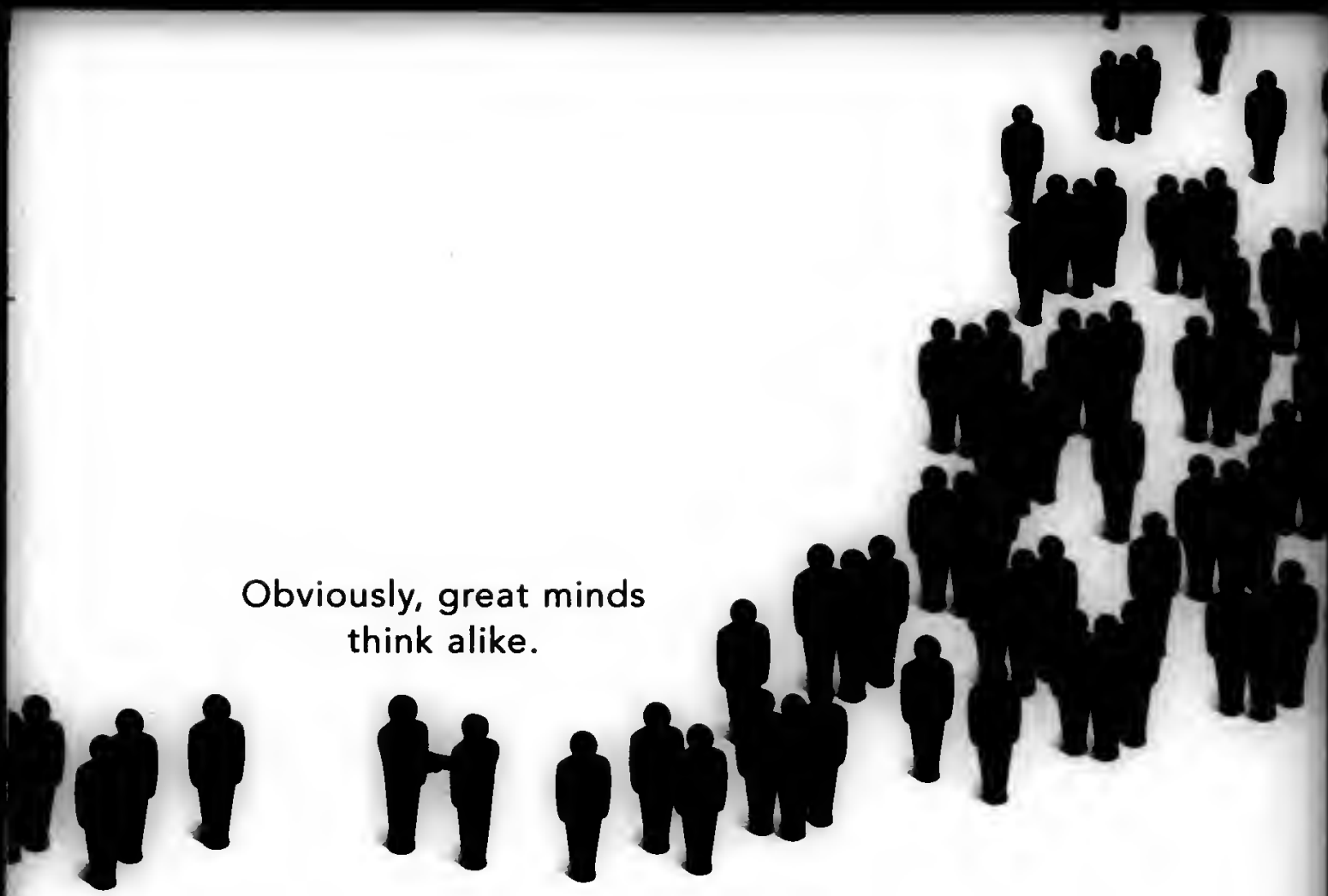

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KNOWLEDGE CENTER STORAGE

Battling Complexity

Storage resource management, virtualization, object-based storage and data classification tools are supposed to help you defeat the complexity monster. Do they really?
PACKAGE STARTS ON PAGE 51.

52 **Virtual Unity.** By creating one big pool of storage, virtualization can help you manage data growth and smooth out capacity crunches. Alberto Cruz Natal, technical manager at Hunterdon Medical Center, moved the community hospital to a centralized storage architecture via a SAN and a high-end Shark array.

56 **Decluttered Data.** The demands of compliance and legal discovery drew the first adopters to object-based storage, yet companies with large stores of digital assets are now reaping the benefits, too.

58 **Watchful Eye.** Storage resource management offers a single window into the storage network, making it possible to measure the performance of any piece of equipment.

62 **Cleaning Out the Attic.** Data classification tools tag data prior to back-up and use a policy engine to determine how to store it based on its importance to the business, freeing up primary storage.

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AT DEADLINE

Microsoft to Help Nigeria Fight Crime

Microsoft Corp. has signed an agreement with the Nigerian government to help its law enforcement agencies break up crime rings that use the Internet for fraud and theft. Microsoft will work with Nigeria's Economic and Financial Crimes Commission, created two years ago to address Internet crime, money laundering and corruption.

Symantec Patches NetBackup Flaw

Symantec Corp. has patched a critical vulnerability in its Veritas NetBackup software that could be used to seize control of an unpatched system. A bug in the Java authentication service could be exploited using specially crafted commands. The bug was disclosed by A.D. Consulting Ltd.'s French Security Incident Response Team.

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VMware Upgrade Will Double CPU Support, Automate Tasks

Dynamic reallocation, load balancing on tap for server virtualization software

BY PATRICK THIBODEAU

VMWARE INC. plans to release new versions of its flagship server virtualization products in next year's first quarter, doubling the number of processors supported by its ESX Server software to four and adding a set of automation features.

The upgraded releases of ESX Server and VMware's VirtualCenter software, which are typically purchased together, are scheduled to be detailed this week at VMware's user conference in Las Vegas.

Brian Byun, vice president of products at the Palo Alto, Calif.-based subsidiary of EMC Corp., said last week that the new software will be able to monitor physical servers and automatically reallocate virtual machines to other systems in the event of any failures. That function, called the Distributed Availability Service, is designed to ensure that applications can continue to run without intervention by systems administrators.

Also included is a feature called Distributed Resource Scheduling, which is intended to improve system utilization by continuously balancing workloads, Byun said.

The upcoming ESX Server 3 and VirtualCenter 2 releases are in limited testing now and should be ready for wider beta tests later this year.

Virtual Opportunities

The four-way processor support and a planned increase in memory capacity to 16GB, up from 3.5GB, may allow some users to move resource-intensive applications to virtual machines.

That's something Doug Baer, a systems engineer at Desert Schools Federal Credit Union in Phoenix, is thinking about. Baer manages 152 physical servers, mostly dual-processor x86 machines, and he has virtualized many of his systems, which support about 2,000 end users. With the increased processor support in ESX, it may be possible to move the credit union's SQL Server database to a virtualized environment, Baer said.

Virtualizing SQL Server would also enable him to use the automated fail-over capabilities in VMware's new releases. "It will probably give us better disaster recovery for our SQL Server," Baer said. "With VMware, it's pretty much a file copy for disaster recovery versus having to rebuild a machine."

Increasing the support in ESX to four virtual CPUs "is a big deal for VMware customers that have reached the end of scalability on their current product," said Dan Kusnetzky, an analyst at IDC. He noted that although some virtualization vendors can support up to 16 processors, "very few applications would need more than two to four processors" at this point.

Jonathan Eunice, an analyst at Illuminata Inc. in Nashua, N.H., called the planned releases "a strong upgrade." Microsoft Corp. and the developers of the open-source Xen software are each trying to commoditize basic virtualization capabilities, he said. But "that's something they can only do over time, not immediately," he added. "VMware remains well in the lead." 57544

VMware's Plans

WHAT'S COMING: ESX Server 3 virtualization software, VirtualCenter 2 tools for managing virtual machine infrastructures.

DELIVERY SCHEDULE: A public beta is due later this year. A commercial release is expected to be ready in Q1 of 2006.

PRICING: Not finalized. ESX and VirtualCenter now start at $5,000; existing users on maintenance contracts can get new releases at no extra cost.

Novell, IBM Take New Tack On Blade-Server OS Pricing

BY CAROL SLIWA

IBM BladeCenter users will get a new chassis-based subscription option that could save them money on their operating system costs, as long as they're running Novell Inc.'s SUSE Linux Enterprise Server on all the blades in a chassis.

The two vendors last week jointly announced that a single SUSE Linux subscription priced at $2,792 will cover the maximum of 14 blade servers that can be configured in a single BladeCenter unit, regardless of the types and quantities of CPUs being used.

"I would love it if more vendors came out with that style of pricing," said Randy Folmes, director of information services at Woodbine Entertainment Group in Toronto. "It's a big job managing licensing at a time when we have 30-odd servers running different operating systems [and] different applications."

Woodbine, which operates two horse-racing tracks in Ontario plus related businesses, has eight blades in its BladeCenter, running a mix of SUSE Linux 8, NetWare 5.1 and Windows 2000 Server. Folmes expects to fill the remaining six slots by the end of next year and is budgeting for a new BladeCenter in 2007. He said he'll consider chassis-based subscription pricing for that unit, as Woodbine continues to move away from NetWare.

Added Flexibility

The chassis-based pricing gives BladeCenter users flexibility so they "can buy blades and stick them into the rack as they need them," said Al Gillen, an analyst at IDC.

The $2,792 price for the chassis-based SUSE Linux subscription is exactly eight times the $349 cost of a subscription for a single server with up to two CPUs. That makes eight blades the break-even point for customers opting for the new approach.

Scott Handy, vice president of worldwide Linux at IBM, noted that blades are often used for server consolidation and virtualization. He said that the single subscription fee will apply even if the 14 blades in a chassis are running dozens of SUSE Linux images.

"Once they license the chassis, they can deploy any number of instances of the operating system," said Ed Anderson, vice president of global product marketing at Novell. He added that although Novell is adopting chassis-based pricing with IBM first, it has the right to strike similar deals with other blade vendors.

Hewlett-Packard Co. doesn't offer per-chassis pricing on its blade units. But it does offer bundled licensing under one management registration key that covers 25 software components, including the operating system as well as provisioning and management tools, according to an HP spokeswoman. 57540

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Cisco Offers New Devices to Boost Performance of Apps

Vendor adds acceleration appliances for data center, branch-office systems

BY MATT HAMBLEN

CISCO SYSTEMS INC. last week announced two sets of appliances that are designed to improve application performance on data center systems as well as ones used in corporate branch offices.

The new products include the Application Velocity System (AVS), a line of application acceleration, security and monitoring appliances for the data center that combines Cisco-developed hardware with software the company obtained in its June acquisition of FineGround Networks Inc.

Cisco announced two AVS models. The vendor said the 3120 lets remote users access Web-based applications at response times similar to those of LANs, while the 3180 monitors and reports on response times networkwide.

For branch offices, Cisco introduced three appliances that it calls Wide-Area Application Engines (WAE). The company said the devices will let companies maintain LAN-like access to applications while consolidating distributed systems into central data centers to reduce management costs.

Streamlining Traffic

Hy-Vee Inc. has used FineGround's Condenser software, which is now part of AVS, for three years to cut overall frame-relay bandwidth usage by 40% for remote intranet users, said Brad Styve, a systems analyst at the 220-store supermarket chain in West Des Moines. "The amount of data going down the pipe is significantly reduced," he said.

Condenser runs on a Linux server at Hy-Vee, but AVS will be sold as a stand-alone, integrated product. A Cisco spokesman said that will allow users to fully integrate the AVS technology with the vendor's other products, including the WAE appliances.

Jay Mellman, director of product marketing for Cisco's Application Oriented Networking product family, said the AVS devices drastically reduce "server chatter" by using modifications to conventional caching techniques to optimize data transfers.

TSI Inc., a maker of precision instruments in Shoreview, Minn., recently deployed three WAE appliances with Cisco's Wide Area File Services technology at its operations in the U.K. In coming months, the company plans to expand by rolling out five more WAEs in Sweden, Germany and China, said IT director Philip St. Ores.

St. Ores said the main benefit of the WAEs is that they reduce the amount of IT equipment needed at remote locations, as well as support costs.

"The financial benefits are real in the form of reduction in servers, software licenses and support time," he said, adding that TSI can now centralize its servers and eliminate domain controllers and redundant backup systems at the remote sites.

The market for application acceleration products is "expanding rapidly," said Rob Whiteley, an analyst at Forrester Research Inc. He predicted that worldwide sales will total about $2 billion this year, with growth being fueled by Web applications and the need to use limited branch-office space more efficiently.

All of the new appliances are available now, Cisco said. The WAE devices are also being offered as a module for use with Cisco's family of integrated services routers. **57543**

Software Drivers

AVS:

- Can be used with any data center applications based on HTML or XML.
- Offloads specific server processes and minimizes the overhead needed to render application pages.
- Includes a firewall to help users identify and block application-layer security threats.
- Pricing starts at $34,995 for the AVS 3120; $14,995 for the 3180.

WAE (below):

- Complies with network policies on traffic prioritization, quality-of-service and security.
- Includes caching and application protocol optimization capabilities.
- Pricing starts at $5,500.

MORE THIS ISSUE

Cisco rival F5 Networks adds an application-layer firewall to its Big-IP appliances. **Page 24**

Executive Defends Cisco's Handling of Black Hat Dispute

BY MATT HAMBLEN
SAN JOSE

At the Black Hat USA conference in July, Cisco Systems Inc. and Atlanta-based Internet Security Systems Inc. tried to stop security researcher Michael Lynn, until then an ISS employee, from giving a scheduled talk about a flaw in Cisco's router software. The companies also prodded Black Hat's organizers to remove Lynn's slides from the conference proceedings, and they secured a court injunction preventing him from further spreading information about exploiting the flaw. Jeff Platon, vice president of product marketing for security and application networking technology at Cisco, spoke last week with Computerworld about Cisco's handling of the Black Hat dispute, among other topics.

Has Cisco's reputation been helped or hurt by the events at Black Hat? We remain vigilant in trying to protect our intellectual property and fulfilling our obligations around full and prompt disclosure of vulnerabilities and solutions that customers need to resolve any potential risks they have with [a] vulnerability.

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Still, there were news reports that Cisco had told people to rip the pages out of Lynn's Black Hat presentation, among other things. Have you heard any backlash from customers? We've had no negative comments from customers. I believe customers continue to trust us to do the right thing. What happened, it is what it is. Were there other ways it could have been handled? Certainly. But it is what it is, and we were trying to fulfill our obligations.

What if something like this happened again at next year's Black Hat conference, or elsewhere? Have you put anything in place to change how you'd react? Yes, we have a better process in place than we had before.

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Cisco Offers New Devices to Boost Performance of Apps

Vendor adds acceleration appliances for data center, branch-office systems

BY MATT HAMBLEN

CISCO SYSTEMS INC. last week announced two sets of appliances that are designed to improve application performance on data center systems as well as ones used in corporate branch offices.

The new products include the Application Velocity System (AVS), a line of application acceleration, security and monitoring appliances for the data center that combines Cisco-developed hardware with software the company obtained in its June acquisition of FineGround Networks Inc.

Cisco announced two AVS models. The vendor said the 3120 lets remote users access Web-based applications at response times similar to those of LANs, while the 3180 monitors and reports on response times networkwide.

For branch offices, Cisco introduced three appliances that it calls Wide-Area Application Engines (WAE). The company said the devices will let companies maintain LAN-like access to applications while consolidating distributed systems into central data centers to reduce management costs.

Streamlining Traffic

Hy-Vee Inc. has used FineGround's Condenser software, which is now part of AVS, for three years to cut overall frame-relay bandwidth usage by 40% for remote intranet users, said Brad Styve, a systems analyst at the 220-store supermarket chain in West Des Moines. "The amount of data going down the pipe is significantly reduced," he said.

Condenser runs on a Linux server at Hy-Vee, but AVS will be sold as a stand-alone, integrated product. A Cisco spokesman said that will allow users to fully integrate the AVS technology with the vendor's other products, including the WAE appliances.

Jay Mellman, director of product marketing for Cisco's Application Oriented Networking product family, said the AVS devices drastically reduce "server chatter" by using modifications to conventional caching techniques to optimize data transfers.

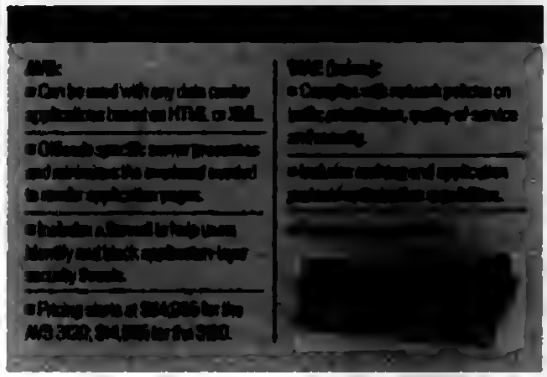
TSI Inc., a maker of precision instruments in Shoreview, Minn., recently deployed three WAE appliances with Cisco's Wide Area File Services technology at its operations in the U.K. In coming months, the company plans to expand by rolling out five more WAEs in Sweden, Germany and China, said IT director Philip St. Ores.

St. Ores said the main benefit of the WAEs is that they reduce the amount of IT equipment needed at remote locations, as well as support costs.

"The financial benefits are real in the form of reduction in servers, software licenses and support time," he said, adding that TSI can now centralize its servers and eliminate domain controllers and redundant backup systems at the remote sites.

The market for application acceleration products is "expanding rapidly," said Rob Whiteley, an analyst at Forrester Research Inc. He predicted that worldwide sales will total about $2 billion this year, with growth being fueled by Web applications and the need to use limited branch-office space more efficiently.

All of the new appliances are available now, Cisco said. The WAE devices are also being offered as a module for use with Cisco's family of integrated services routers. **57543**



MORE THIS ISSUE

Cisco rival F5 Networks adds an application-layer firewall to its Big-IP appliances. Page 24

Executive Defends Cisco's Handling of Black Hat Dispute

BY MATT HAMBLEN
SAN JOSE

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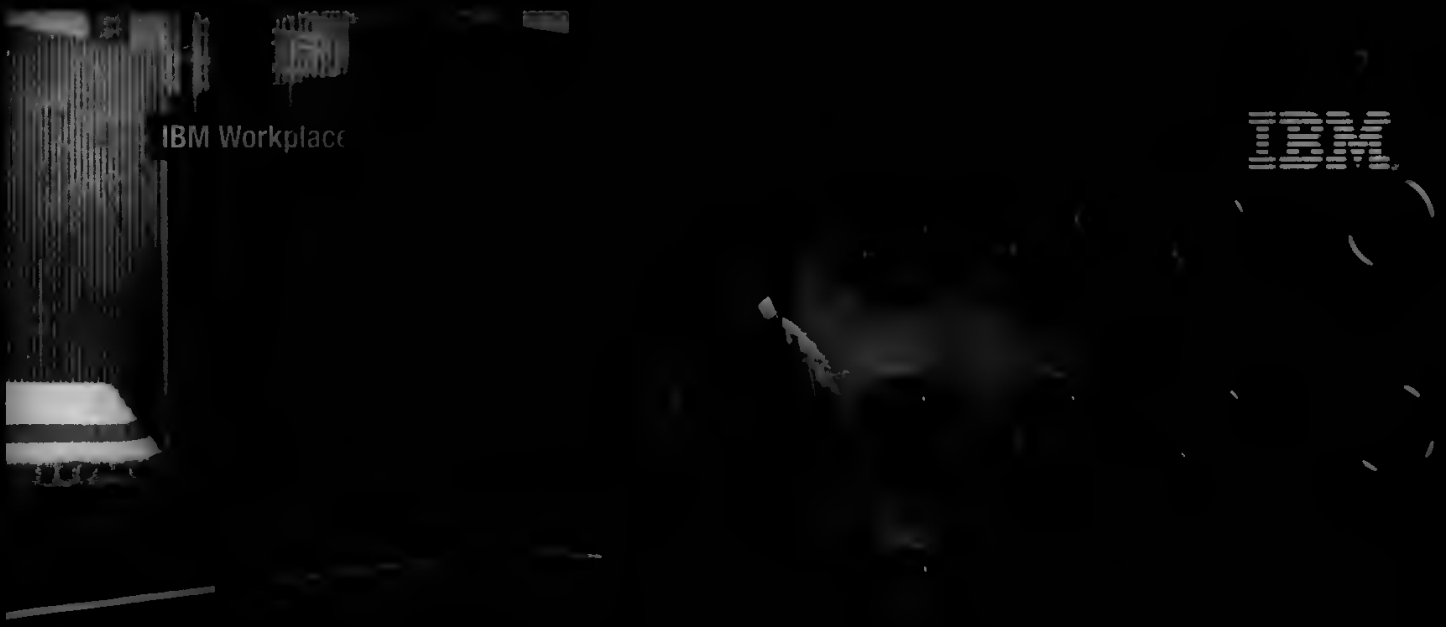

IBM Workplace
IBM

BRIEFS

Microsoft Adds Portal to Navision

Microsoft Corp. has released a service pack for Navision that includes a new portal to the suite of business management software. Service Pack 1 for Navision 4.0 adds the Navision Employee Portal, built from the integration of Navision and Windows SharePoint Services and SharePoint Portal Server. The package also improves integration with Microsoft Office and Microsoft SQL Server.

AMD Posts Positive Financial Results

Taking advantage of its technical lead over rival Intel Corp. in dual-core server processor development, Advanced Micro Devices Inc. reported better than expected third-quarter results.

AMD BY THE NUMBERS

Q3 05	$1.58	$76M
Q3 04	$1.28	$44M

Google Plugs Search Engine Hole

Google Inc. fixed a security vulnerability on its search-engine Web site within days of being told about it by Finjan Software Inc. The security vendor's Malicious Code Research Center told Google of a cross-site scripting vulnerability that could have allowed a remote attacker to take over Google accounts or deceive users into revealing personal information.

BEA Agrees to Buy RFID Tool Maker

BEA Systems Inc. has agreed to purchase privately held ConnecTerra Inc. The Cambridge, Mass.-based RFID middleware vendor makes infrastructure software for collecting data from RFID devices and distributing it for use in applications. The software treats RFID data as an asset to be incorporated into applications and business processes. Terms of the deal weren't disclosed.

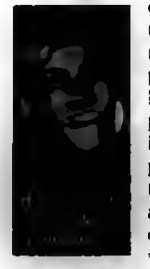
ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

JAVIU LARA

Fuel Crunch Puts Budget Brakes . . .

. . . on local travel while pushing pedal to the metal on Web conferencing. Genesys Conferencing Inc. in Reston, Va., polled about 6,000 of its 50,000 North American users and discovered a new reason why traffic on its Web- and audio-conferencing system has skyrocketed 40% in the past 12 months: the price of gasoline. Peaking petrol prices have pushed people out of their cars and in front of their PCs when they need to meet, said Denise Persson, executive vice president of marketing at Genesys. "Before, Web conferencing has been seen as a lower-cost alternative to air travel, but now it's also cross-town travel," she observes. Persson says 25% of those surveyed by Genesys last month predicted that they'll further increase their use of Web conferencing in lieu of driving to local meetings. The vast majority of those virtual get-togethers will be for intracompany confabs, Persson adds.



Fred Amoroso, CEO of Macrovision Corp. in Santa Clara, Calif., agrees that the rise in energy costs is having an effect on the IT industry. But the news isn't all good, he says, pointing to a study by Morgan Stanley revealing that corporate CIOs have cut IT spending growth projections for this year from an average 4.3% increase in January to 3.3% as of August. Amoroso, who spoke at the SoftSummit 2005 conference in Santa Clara last week, notes that the study blames ballooning fuel costs for the, er, shrinking growth.

Packaged software is getting whacked . . .

. . . by a shift inside IT to develop apps internally. That's the conclusion drawn by Ken Berryman, a consultant at McKinsey & Co. who also spoke at SoftSummit 2005. According to Berryman, New York-based McKinsey in 1998 estimated that 31% of business applications were internally developed. By 2003, that percentage had jumped to 42%, while packaged apps fell from 32% of the mix to 28%, he says. Berryman says he expects the trend to continue because there is now "a much more standard software stack" for IT, including everything from middleware to network protocols. Plus, he says, development tools are improving.

Keep tabs on changes to open-source . . .

. . . technologies used in your app-dev process. Marina del Rey, Calif.-based start-up Mergere Inc. makes its product debut this week with Maven 2.0, a commercial version of Maven open-source software. According to CEO Winston Damarillo, Maven checks which open-source code is used in your applications, determines whether it has changed and shows the dependencies between your programs and their open-source components. Maven 2.0 adds features such as the Policy Injector tool, which lets IT managers define and enforce open-source development policies. For example, you may want to use only open-source code covered by a particular license and Maven 2.0 can make sure that's the case. Annual subscription pricing for Maven 2.0 starts at $25,000 per development project.

Overcome the overload of information . . .

. . . generated by systems data. Andrew Lark, chief marketing officer at LogLogic Inc. in San Jose, claims that a big corporate data center can annually spew out up to 43TB of log-file data from servers, routers, firewalls and other devices. Lark says those logs contain clues to solving many IT problems. But who wants to manually pore over those files? Not you, he's betting. His company's appliances, running a new LogLogic 3.1 software release, can collect 50,000 log messages per second, index the data and store up to 24TB, which you can search at your leisure. Speaking of information overload, Lark says that with Version 3.1, you can create up to 13,000 custom reports to impress your boss. The upgrade also includes an Open Log Routing feature, which lets log data be viewed via other management consoles. LogLogic 3.1 ships this week; the appliances start at $75,000.

Off-load the desktop processing of . . .

. . . your InCopy and InDesign files. Late this fall, Adobe Systems Inc. plans to ship its InDesign Server CS2 software. According to Kiyo Toma, a product manager at San Jose-based Adobe, the new software will handle the complex file check-in synchronization process required by Adobe's publishing suite, improving performance for end users who now have to wait while their PCs do the work. Toma also claims that the server will give users continuous uptime of 30 days. That might not sound impressive to data center managers, he admits. But it should impress the publishing world, where five days without a server reboot is almost magical. InDesign Server CS2 runs on Windows and Macintosh servers. Pricing wasn't revealed. **ID 57496**

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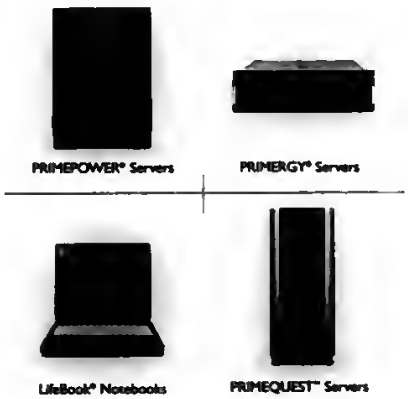

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Irish Agency Halts Work on Two SAP Application Projects

Troubled health department payroll system nearly $170 million over budget

BY MARC L. SONGINI

THE HALTING OF two controversial SAP AG ERP system rollouts — valued at more than $380 million — this month has ignited a political firestorm in Ireland.

The Irish Health Service Executive (HSE), an oversight committee for the national health department, suspended work on the Personnel, Payroll and Related Systems (PPARS) project, which was started 10 years ago to handle payroll functions for the unit's 120,000 employees.

Work on the project was halted Oct. 6 after numerous problems were found in the first four regional installations in operations that together employ 37,000 department workers.

The committee also ceased work on another, unrelated health department project, the Financial Information Systems Project (FISP).

The government hired New York-based consulting firm Deloitte & Touche LLP to implement both systems, which are based on SAP's R/3 ERP software.

A Textbook Example

Critics in Parliament and elsewhere have called both projects examples of mismanagement and waste. "It's like a case study in how not to run a project," said a spokesman for Enda Kenny, the leader of Irish opposition party Fine Gael. "It's appalling stuff."

Officials have described the PPARS application, which was further along than FISP, as the most complex human resources, time management and payroll system ever implemented in Ireland. After being launched around 1995, the project was budgeted at $10.7 million and was expected to take three years. After 10 years, the expected price tag has rocketed to $180 million.

For this price, Kenny said earlier this month, the agency could have built a "brand new 600-bed hospital." He said the system has made widespread payroll errors — for example, one staffer was accidentally paid $1.2 million. The major pilot site for the program — St. James Hospital in Dublin — also has had numerous payroll problems caused by the software, he said.

Faced with such opposition and problems, the HSE decided to halt work on the PPARS project until it is assured that any future investments will result in a system that works as advertised.

The FISP project aimed to build a single financial and materials management system that supports current best practices. The system, expected to cost about $203 million, would replace a mishmash nf legacy systems and processes. About $36 million has been spent so far on the project, which is considered on time and on budget. "Nevertheless, it is important that the HSE is completely satisfied that all such systems are adequate to its future needs," said a spokeswoman for the HSE.

The committee has yet to complete its evaluation and determine the precise cause of the problems with the PPARS applicatinn. However, it has been suggested that the complexity of the project — and of the system it was replacing — was a definite factor.

In a statement issued earlier this month, Irish Minister nf Health Mary Harney, to whom HSE reports, said her agency hadn't realized the complexity of the older payroll system, which included "over 2,500 variations in payment arrangements across the entire health system," until the PPARS project was well under way.

"The extent of the incoherence was not known before PPARS implementation work commenced," she said.

For its part, SAP wouldn't comment directly on the project but said in a statement that "the HSE is a highly valued customer of SAP Ireland." A spokesman for Deloitte's Irish branch declined to comment on the projects. **57533**

READ MORE ONLINE

St. James Hospital in Dublin, a PPARS pilot site, wants to abandon the payroll system:
QuickLink 57532
www.computerworld.com

Defense Logistics Unit Has Weak Security, GAO Says

Cites inadequate training, lack of system testing

BY LINDA ROSENCRANCE

The Defense Logistics Agency isn't fully protecting its information systems, according to a report released last week by the Government Accountability Office.

The DLA is responsible for providing goods such as food, fuel, medical supplies and spare parts for weapon systems to the U.S. Department of Defense. In its report, the GAO said the logistics agency has made some progress in implementing key elements of its information security program but needs to do more.

The report credited the DLA for establishing a central security management group and appointing a senior information security officer. But the GAO said the agency has failed to consistently assess the security risks that could result from unauthorized access to its systems and the improper use, disclosure nr destruction of data.

In addition, employees responsible for the DLA's information security program haven't received enough training; annual security testing and evaluation of management and operational controls haven't been done; and plans to mitigate known IT deficiencies haven't been completed, according to the GAO.

Until the DLA addresses the security management and oversight weaknesses and implements an effective agency-wide IT security program, it may not he able to protect the confidentiality, integrity and availability of its systems and data.

Recommendations Made

The GAO, which completed a 10-month audit of DLA facilities in July, outlined 10 steps that the agency should take to improve its security practices and controls.

The recommendations include a call for the DLA to ensure that workers who are involved in IT security get adequate training and that the training program be monitored by agency officials and updated as needed.

In a written response to the GAO, Paul Brinkley, deputy undersecretary of defense for business transformation, agreed with most of the recommendations and said the DLA is working to address them. For example, Brinkley wrote that the DLA plans to distribute a Defense Department manual with detailed guidance on security training.

However, Defense Department officials disagreed with three of the recommendations, including the need to annually test the effectiveness of security controls for all systems. Brinkley said that doing so would amount to annual re-certification and is neither practical nor cost-effective.

The GAO countered that it doesn't expect the DLA to test all of its information-assurance controls annually. But it said that it does want to ensure that the testing efforts include management, operational and technical controls for every system in the agency's inventory, as required by the Federal Information Systems Management Act. **57511**

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BRIEFS

Intel Unveils First Dual-Core Chips

Intel Corp. has unveiled its first dual-core Xeon chips for two- and four-processor servers. Developed under the code name Paxville, the new chips are said to be 50% more powerful than their single-core predecessors, and they cost about 40% more than those chips. The version for two-chip servers is available immediately at 2.8 GHz. Dual-core Xeon-based systems can now be ordered from Dell Inc., Hewlett-Packard Co. and IBM.

Second Beta of Firefox 1.5 Ships

The Mozilla Foundation announced that it has released a second beta version of the Firefox 1.5 Web browser in order to focus on tackling nagging security issues. The Beta 2 release comes just a month after Beta 1 shipped. Version 1.5 is Firefox's first major update since the Web browser officially debuted last year.

Mac and iPod Sales Set Apple Record

Apple Computer Inc.'s fiscal 2005 fourth quarter was the best operating period in the company's history – thanks to robust Macintosh and iPod sales, according to the company.

APPLE BY THE NUMBERS

04 '05	$3.68B	$430M
04 '04	$2.35B	$106M

Citrix Adds 64-Bit Presentation Server

Fort Lauderdale, Fla.-based Citrix Systems Inc. announced that it has released a 64-bit version of its flagship product, which it says will enable users to significantly increase server workloads and reduce hardware needs. The Citrix Presentation Server 4.0 for Microsoft Windows Server 2003 x64 edition can be used to run 64- and 32-bit applications on a server.

More Companies Tap IT for Sarbanes-Oxley

Tools can automate controls, processes

BY THOMAS HOFFMAN

COMPANIES ARE increasingly turning to technology in their Sarbanes-Oxley Act compliance efforts in order to automate internal controls or streamline their activities, according to new research and interviews last week with corporate executives.

Three of four U.S.-based multinationals will be making extensive use of IT in Sarbanes-Oxley compliance projects this year, according to a survey of 131 corporations by PricewaterhouseCoopers that was released last week.

On the other hand, one-fifth of the companies expect to make no significant technology changes in efforts to comply with the legislation's directives, according to the New York-based consulting firm.

FirstEnergy Corp. is one company that has utilized technology to seize upon the opportunities cited by PricewaterhouseCoopers.

Last June, the diversified energy company in Akron, Ohio, purchased compliance software from Certus Software Inc. in Cupertino, Calif., to help make its processes "more repeatable and less costly," said Alan Michel, FirstEnergy manager of internal auditing.

FirstEnergy just this month finished rolling out the software to its internal auditors and expects by early 2006 to extend it to more than 250 users, he said.

Michel said that the combination of the technology and processes created by the company to address Sarbanes-Oxley requirements should lower the company's compliance costs by 20% to 40%.

Last year, most of FirstEnergy's compliance activities were handled manually using a hodgepodge of spreadsheets, Word, PowerPoint and Visio documents, he said.

'Dramatic Decrease'

Michel said the Certus tool has already led to a "dramatic decrease" in the amount of time FirstEnergy's staff needs to complete its quarterly compliance efforts.

Tempur-Pedic International Inc. began implementing compliance software from Irvine, Calif.-based Logical Apps Inc. last March "to help us become more [Sarbanes-Oxley]-compliant," said Michael Smith, vice president of IT at the Lexington, Ky.-based maker of pillows and mattresses.

By implementing the compliance software, Smith said he hopes to automate as many IT controls as possible, "so we don't have to fish through paperwork to demonstrate segregation of duties." 57519

IT and Sarb-Ox

Selected results of a survey of 131 CFOs and managing directors that was completed in July 2005:

75% of respondents expect to make significant IT investments for Sarbanes-Oxley compliance projects.

10% said a lack of technology has been a problem area in Sarbanes-Oxley compliance efforts.

40% said their IT organizations respond effectively to requests to find better ways to support compliance processes and the controls environment.

21% said their IT departments have been proactive in identifying ways to use technology for more-effective compliance.

SOURCE: PRICEWATERHOUSECOOPERS

IBM Brings Out Virtual Tape Library, SAN Controller

Linux system is the first in a series of library releases

BY LUCAS MEARIAN

IBM last week unveiled its first virtual tape library for open systems along with a major upgrade of its TotalStorage SAN Volume Controller (SVC) virtualization engine.

SVC Version 3.1, which pools storage resources from heterogeneous arrays behind an appliance, will support up to four times more servers — as many as 1,024 — than the current version and manage larger storage networks, IBM said.

The SVC upgrade, which ships on Nov. 18, will also let users choose among native copy functions, which allow communication with products of other vendors. The upgrade is priced from $43,000.

Dave Samic, senior network analyst at FirstMerit Bank NA in Akron, Ohio, a user of the current SVC version, said he expects the updated offering to let him expand the storage-area network at his operation. The First Merit SAN now runs up to 115 virtual servers supported by a single IBM FAStT700 midrange array behind the SVC appliance.

"We're looking at growing this SAN. When you have servers scattered around the building, you add to administrative overhead. I'm excited to see a new major release like this," Samic said.

Tony Prigmore, an analyst at Enterprise Strategy Group Inc. in Milford, Mass., added that IBM had little choice but to add the native copy capabilities, because users have been requesting it. "Now they can pass through the storage-array data protection and migration features [from other vendors]," he said.

IBM's new Linux-based Virtualization Engine TS7510 is the first of what IBM says will be a series of virtual tape libraries.

The TS7510 combines hardware and software to provide tape virtualization for Unix- and Intel-based servers that connect to Fibre Channel storage systems. The rack-mounted Virtualization Engine server scales to 46TB.

Prigmore said that although IBM entered the virtual tape library fray after rivals EMC Corp. and Hewlett-Packard Co., the company can draw on its enormous server and storage installed base to sell the new product.

The TS7510 is priced from $175,000 and will be available on Oct. 28. 57515

COMPARING TAPE LIBRARIES

	Starting price	Max capacity	Number of virtual drives	Number of tape libraries it can emulate
IBM's Virtualization Engine TS7510	$175,000	46TB	512	64
Hewlett-Packard's StorageWorks 6510 Virtual Library System	$57,194	10TB	64	16
EMC's Clariion DL310 Disk Library	$110,000	37TB*	512	64

*Compressed

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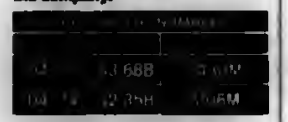

Citrix Adds 64-Bit Presentation Server

Fort Lauderdale, Fla.-based Citrix Systems Inc. announced that it has released a 64-bit version of its flagship product, which it says will enable users to significantly increase server workloads and reduce hardware needs. The Citrix Presentation Server 4.0 for Microsoft Windows Server 2003 x64 edition can be used to run 64- and 32-bit applications on a server.

More Companies Tap IT for Sarbanes-Oxley

Tools can automate controls, processes

BY THOMAS HOFFMAN

COMPANIES ARE increasingly turning to technology in their Sarbanes-Oxley Act compliance efforts in order to automate internal controls or streamline their activities, according to new research and interviews last week with corporate executives.

Three of four U.S.-based multinationals will be making extensive use of IT in Sarbanes-Oxley compliance projects this year, according to a survey of 131 corporations by PricewaterhouseCoopers that was released last week.

On the other hand, one-fifth of the companies expect to make no significant technology changes in efforts to comply with the legislation's directives, according to the New York-based consulting firm.

FirstEnergy Corp. is one company that has utilized technology to seize upon the opportunities cited by PricewaterhouseCoopers.

Last June, the diversified energy company in Akron, Ohio, purchased compliance software from Certus Software Inc. in Cupertino, Calif., to help make its processes "more repeatable and less costly," said Alan Michel, FirstEnergy manager of internal auditing.

FirstEnergy just this month finished rolling out the software to its internal auditors and expects by early 2006 to extend it to more than 250 users, he said.

Michel said that the combination of the technology and processes created by the company to address Sarbanes-Oxley requirements should lower the company's compliance costs by 20% to 40%.

Last year, most of FirstEnergy's compliance activities were handled manually using a hodgepodge of spreadsheets, Word, PowerPoint and Visio documents, he said.

'Dramatic Decrease'

Michel said the Certus tool has already led to a "dramatic decrease" in the amount of time FirstEnergy's staff needs to complete its quarterly compliance efforts.

Tempur-Pedic International Inc. began implementing compliance software from Irvine, Calif.-based Logical Apps Inc. last March "to help us become more [Sarbanes-Oxley]-compliant," said Michael Smith, vice president of IT at the Lexington, Ky.-based maker of pillows and mattresses.

By implementing the compliance software, Smith said he hopes to automate as many IT controls as possible, "so we don't have to fish through paperwork to demonstrate segregation of duties." **57519**

IT and Sarb-Ox

Selected results of a survey of 191 CFOs and managing directors that was completed in July 2005:

75% of respondents expect to make significant IT investments for Sarbanes-Oxley compliance projects.

10% said a lack of technology has been a problem area in Sarbanes-Oxley compliance efforts.

40% said their IT organizations respond effectively to requests to find better ways to support compliance processes and the controls environment.

21% said their IT departments have been proactive in identifying ways to use technology for more-effective compliance.

SOURCE: PRICEWATERHOUSECOOPERS

IBM Brings Out Virtual Tape Library, SAN Controller

Linux system is the first in a series of library releases

BY LUCAS MEARIAN

IBM last week unveiled its first virtual tape library for open systems along with a major upgrade of its TotalStorage SAN Volume Controller (SVC) virtualization engine.

SVC Version 3.1, which pools storage resources from heterogeneous arrays behind an appliance, will support up to four times more servers — as many as 1,024 — than the current version and manage larger storage networks, IBM said.

The SVC upgrade, which ships on Nov. 18, will also let users choose among native copy functions, which allow communication with products of other vendors. The upgrade is priced from $43,000.

Dave Samic, senior network analyst at FirstMerit Bank NA in Akron, Ohio, a user of the current SVC version, said he expects the updated offering to let him expand the storage-area network at his operation. The First Merit SAN now runs up to 115 virtual servers supported by a single IBM FAStT700 midrange array behind the SVC appliance.

"We're looking at growing this SAN. When you have servers scattered around the building, you add to administrative overhead. I'm excited to see a new major release like this," Samic said.

Tony Prigmore, an analyst at Enterprise Strategy Group Inc. in Milford, Mass., added that IBM had little choice but to add the native copy capabilities, because users have been requesting it. "Now they can pass through the storage-array data protection and migration features [from other vendors]," he said.

IBM's new Linux-based Virtualization Engine TS7510 is the first of what IBM says will be a series of virtual tape libraries.

The TS7510 combines hardware and software to provide tape virtualization for Unix- and Intel-based servers that connect to Fibre Channel storage systems. The rack-mounted Virtualization Engine server scales to 46TB.

Prigmore said that although IBM entered the virtual tape library fray after rivals EMC Corp. and Hewlett-Packard Co., the company can draw on its enormous server and storage installed base to sell the new product.

The TS7510 is priced from $175,000 and will be available on Oct. 28. **57515**

COMPARING TAPE LIBRARIES

	Starting price	Max. capacity	Number of virtual drives	Number of tape libraries it can emulate
IBM's Virtualization Engine TS7510	$175,000	46TB	512	64
Hewlett-Packard's StorageWorks 6000 Virtual Library System	$57,384	16TB	64	16
EMC's Clariion CLARiiON Disk Library	$110,000	37TB*	512	64

*Compressed

MOST EMPLOYEES CAN'T EVEN SEE THEIR DESK MUCH LESS WORRY ABOUT ENSURING COMPLIANCE

Reduce compliance risk and email storage requirements with automated email management.

Email gives you 35 billion reasons every business day to find a better way to manage it. Email must meet the same rigorous compliance mandates as other corporate documents. Inadequate storage, human error, and inconsistent policy enforcement put you at risk. FileNet Email Manager with exclusive ZeroClick technology automates your entire email management lifecycle – minimizing human interaction, improving productivity and mitigating storage needs. It's much more than an archival solution. Together with FileNet Records Manager, email can now be fully managed without user interaction or costly infrastructure. The leading choice of global enterprises, you won't find a better email management solution anywhere. (We know your employees can't.)

FILENET

Continued from page 1

Interex

Interex's customer database and mailing list from Genisys Corp., a Redmond, Wash.-based seller of refurbished HP hardware. That offer has triggered a bidding process that has given other interested parties a chance to top Genisys' offer. Higher bids of at least $16,500 must be submitted to Wu by Wednesday, the notice said.

The customer information collected by Interex "is valuable data," said Donna Garverick, secretary of OpenMPE Inc., an HP e3000 user group that includes many former Interex members. She noted that the database likely includes details about the IT installations of Interex members.

> Personal information submitted at the time of registration, subscription and/or membership renewal may be used by Interex for the marketing and promotion of Interex products. In addition, your name and mailing address may be provided to a licensed and bonded third-party mail house for one-time use by carefully selected HP-centric partner companies.

Garverick said some of the Interex members she had heard from were trying to determine whether the user group's bylaws prohibited the sale of the membership data. Renting the Interex mailing list was possible, she said, but there were controls on the data that could be released.

There are also concerns about what could happen to the information collected by Interex once it's sold — such as whether it could be resold and used by other companies, Garverick added.

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One former Interex member, who asked that his name not be used, said he's upset that some of his personal information could be sold to Genisys or another bidder.

"I consider my e-mail address to be confidential," the former member, who lives in New Mexico, wrote in an e-mail message. "There was a moral and ethical obligation [for Interex officials] to live up to their stated policy on collecting information on members — i.e., to not sell it or give it away. I understand the legal arguments that Interex no longer exists and that the court is in charge. But the court should respect that obligation."

Chris Hoofnagle, senior counsel at the Electronic Privacy Information Center in Washington, said that if Interex's privacy policy was silent on the issue of selling membership data, there may be nothing to stop the bankruptcy trustee from going ahead with the planned sale. He added that even in cases where policies bar sales of data, bankruptcy courts sometimes override the provisions.

A request to speak with Wu hadn't been met as of press time. The notice about the planned sale said that if there is more than one bid for the database, an auction-style sale will be conducted by telephone on Thursday, starting at the highest submitted bid. **57541**

University Turns to iSCSI to Boost Storage Without Breaking Budget

Says upgrading its Fibre Channel system would have been too costly, complex

BY LUCAS MEARIAN

Coppin State University in Baltimore early this year found itself facing a data explosion that had overwhelmed its two Fibre Channel storage arrays.

Thus the school's IT operation was forced to find a way to supply users with an easy-to-manage online storage system that wouldn't break the budget.

Once that search began, the IT group saw two possible solutions to fix the problem.

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One option was to replace its two 3-year-old EMC high-end Symmetrix Fibre Channel storage arrays, which were plagued with problems due to incompatible switches, with new models that support far higher capacity. The second option was to use Internet SCSI technology to add a second storage-area network.

The school chose the latter option, and since implementing the SAN in June, Coppin's IT staff has become convinced that IP storage is critical, citing its relatively low cost and ease of use.

The university bought iSCSI SAN technology for the new network in June from LeftHand Networks Inc. Officials found the $100,000 price a steal compared with the potential costs of upgrading its Fibre Channel infrastructure, said Mitch PreVatte, director of network services at Coppin.

PreVatte noted that he has extensive support costs for the Fibre Channel systems. For example, PreVatte said he is looking at a $57,000 bill from EMC for servicing Coppin's SAN to fix problems that were caused by the lack of compatibility between switches from Brocade Communications Systems Inc. and McData Corp.

PreVatte said the switch problems stemmed from a recommendation from nPlusOne Inc., a services firm in Edinburgh, that Coppin shift its Fibre Channel switch suppliers from Brocade to McData, citing a need for the latter's high-end technology. NPlusOne officials couldn't be reached.

PreVatte also said that he has found the iSCSI technology far less complex than Fibre Channel.

"The iSCSI SAN was one of the smoothest installs I've ever done," PreVatte said. "Fibre Channel, on the other hand, is a complex animal and requires a lot of specialized knowledge. Installing our Fibre Channel SAN was just a nightmare. We had tons of grief and in fact still have tons of grief."

Market Growth

According to Gartner Inc., Coppin's iSCSI decision is part of a trend. Based on a Gartner survey, the consulting firm projects that by 2006, iSCSI technology will connect almost 1.5 million servers to SANs, more than any competing system.

Gartner analyst James Opfer said iSCSI won't replace Fibre Channel in the data center because of performance issues, but it will continue to grow substantially as a server consolidation technology, especially for low-end systems.

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Overall, the school requires ever-increasing amounts of storage to support 1,400 computers on its data network, 650 IP-enabled phones and a new PeopleSoft deployment that eats up 8.6TB of storage space on the two Symmetrix arrays, PreVatte said.

PreVatte said the older Symmetrix arrays will continue to run Coppin's transactional databases that hold financial, human resources and student information, but there are no plans to add Fibre Channel capacity. Any new storage systems will be based on iSCSI technology, he said.

"I've had no problems with reliability of the EMC gear. Their storage has been extremely reliable," PreVatte said. "But I'm also dependent on outside resources, because if something doesn't do what it's supposed to be doing, I need someone who can fix the problems." **57535**

Corrections

THE SIZE of the workforce at Allstate Insurance Co. and the number of employees who have access to voice-over-IP services were misstated in a Sept. 26 News story ("Converged Network, VoIP Projects Tax IT Managers"). Northbrook, Ill.-based Allstate said that information disclosed at a conference was wrong and that about 10,000 of its 70,000 workers are equipped for VoIP usage.

AN ITEM IN THE SECURITY LOG in last week's Technology section ("Kaspersky Products Hit by Security Bug") didn't include comments from a statement issued by security software vendor Kaspersky Lab on Oct. 4. In the statement, Kaspersky confirmed the presence of a vulnerability in a module of its Kaspersky Anti-Virus tool but said it had added a package of signatures that detect possible exploits of the flaw to the software on Sept. 29. That significantly reduces the chances of successful exploits, the company said. The Security Log item also misidentified the location of Kaspersky's headquarters: the company is based in Moscow.

Continued from page 1

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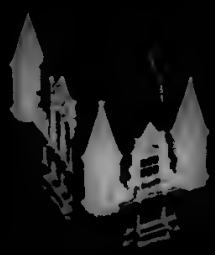

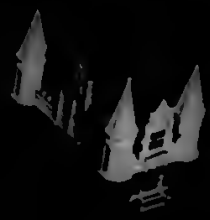

GLOBAL

An International IT News Digest

Flextronics to Add 2,000 To Its Indian Workforce

SINGAPORE

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GLOBAL FACT

Total euros spent on IT services in Europe, the Middle East and Africa last year

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Flextronics currently employs 5,000 people in India at manufacturing facilities in Bangalore and Pondicherry and at software development and hardware design centers in Bangalore, Chennai and Gurgaon.

■ JOHN RIBEIRO IDG NEWS SERVICE

Australian Conference Woos IT Execs to IPv6

CANBERRA, AUSTRALIA

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He added that Australian companies need to start using the technology. "Everywhere else in the Asia-Pacific region, there is extensive IPv6 deployment, and we [risk being] left behind," Davis said.

Other scheduled speakers at the conference include Latif Ladid, chairman of the European Commission IPv6 Task Force; Mark Evans, from the U.S. Navy's IPv6 transition project office; and Chris Gunderson, executive director of the World Wide Consortium for the Grid in Reston, Va.

The two-day summit, which starts Oct. 31, is being sponsored by the Internet Society of Australia and the Smart Internet Technology Cooperative Research Centre in Eveleigh, Australia.

■ RODNEY GEDDA COMPUTERWORLD TODAY

Intel to Refocus, Expand German Research Lab

BRAUNSCHWEIG, GERMANY

INTEL CORP. last week said it plans to change the focus of work done at its semiconductor research lab here while expanding the number of researchers at the facility by 50%.

Intel's plan calls for the lab's engineering team, which currently designs chips for optical networks, to shift its primary focus over the next few weeks to developing chips with hundreds of processing cores, said Mike Cato, a spokesman at the company's German headquarters in Feldkirchen. At the same time, the research staff will increase from 100 to 150 people, according to Cato.

"We aren't planning to discontinue our optical networking development work in Braunschweig entirely," Cato said. "But the key focus will be development of many-core chips."

The facility will be called the German Microprocessor Lab and used solely for pure research, not actual product development, Cato said. He added that the lab could expand its research focus over the next few years. "Give us six months to a year, and we'll know more by then," he said.

■ JOHN BLAU IDG NEWS SERVICE

Lufthansa Teams up on Biometric ID System

MUNICH

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■ JOHN BLAU IDG NEWS SERVICE

Symantec Says It's Not Suing Microsoft

SYMANTEC CORP. CEO John Thompson last week downplayed reports that the security software vendor had taken steps toward initiating a possible antitrust investigation into Microsoft Corp.'s business practices by the European Commission.

The Dow Jones Newswire had reported that Cupertino, Calif.-based Symantec filed an informal complaint against Microsoft with the EC.

JOHN THOMPSON

In an interview after he gave a speech at The Commonwealth Club of California in San Francisco, Thompson confirmed that Symantec had provided documents to the EC, but he dismissed the talk of a complaint being filed. "We're not involved in any investigation," he said. "We partner with Microsoft. We're not trying to go to court with Microsoft by any stretch of the imagination."

During his speech, Thompson described the relationship between the two companies as one of "mutual dependency." He said that although Microsoft's full-fledged entry into the security software market is inevitable, it isn't "a preordained success." **57476**

■ ROBERT McMILLAN IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Capgemini, **a Paris-based IT consulting firm, has fired its chief operating officer for thinking about taking another job. COO Pierre Danon had applied for – but failed to get – a job as the head of hotel chain Accor SA, also based in Paris. Capgemini said it has no plans to replace him in the coming months.**

■ PETER SAYER, IDG NEWS SERVICE

Tata Consultancy Services Ltd., **the largest outsourcing firm in India, reported large year-over-year gains in its results for the second quarter, which ended Sept. 30. Revenue was 29.5 billion rupees ($670 million U.S.), up 21.4% from 24.3 billion rupees ($543 million) in the same quarter last year. The Mumbai-based company's profits grew by 15.5% to 6.7 billion rupees ($150 million), up from 5.8 billion rupees ($130 million).**

■ JOHN RIBEIRO, IDG NEWS SERVICE

Infosys Technologies Ltd., **India's second-largest outsourcing vendor, also reported robust growth in revenue and profits for the three months that ended Sept. 30. The Bangalore-based company's second-quarter revenue was 23.5 billion rupees ($524 million), up 38.3% from the year-earlier level of 17 billion rupees ($379 million). Net profit rose 44.2% to 6.2 billion rupees ($138 million), from 4.3 billion rupees ($97 million).**

■ JOHN RIBEIRO, IDG NEWS SERVICE

Ford of Europe, **Ford Motor Co.'s European arm, has rolled out a browser-based electronics parts catalog called FordEcat that was developed internally and is based on software from Burlington, Mass.-based Enigma Inc. Ford, which previously used outside contractors to create its electronic catalog, said it expects the new version to cut the time needed to distribute auto parts and materials to its dealers in Europe and the Middle East. The FordEcat system supports 17 languages and can be accessed via the Web or on a CD-DVD.**

■ LINDA ROSENCRANCE

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The system includes a registration component, where the fingerprints, photos and personal information of passengers can be recorded, digitized and stored on a smart card along with a serial number. Fingerprint checks can then be done at a boarding station located between check-in counters and airport gates, the companies said.

■ JOHN BLAU, IDG NEWS SERVICE

Symantec Says It's Not Suing Microsoft

SYMANTEC CORP. CEO John Thompson last week downplayed reports that the security software vendor had taken steps toward initiating a possible antitrust investigation into Microsoft Corp.'s business practices by the European Commission.

The Dow Jones Newswire had reported that Cupertino, Calif.-based Symantec filed an informal complaint against Microsoft with the EC.

In an interview after be gave a speech at The Commonwealth Club of California in San Francisco, Thompson confirmed that Symantec had provided documents to the EC, but be dismissed the talk of a complaint being filed. "We're not involved in any investigation," he said. "We partner with Microsoft. We're not trying to go to court with Microsoft by any stretch of the imagination."

During his speech, Thompson described the relationship between the two companies as one of "mutual dependency." He said that although Microsoft's full-fledged entry into the security software market is inevitable, it isn't "a preordained success." **57476**

■ ROBERT MCMILLAN, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Capgemini, a Paris-based IT consulting firm, has fired its chief operating officer for thinking about taking another job. COO Pierre Danon had applied for – but failed to get – a job on the board of hotel chain Accor SA, also based in Paris. Capgemini said it has no plans to replace him in the coming months.

■ PETER SAYER, IDG NEWS SERVICE

Tata Consultancy Services Ltd., the largest outsourcing firm in India, reported large year-over-year gains in its results for the second quarter, which ended Sept. 30. Revenue was 28.5 billion rupees ($670 million U.S.), up 21.4% from 24.3 billion rupees ($543 million) in the same quarter last year. The Mumbai-based company's profits grew by 15.5% to 6.7 billion rupees ($150 million), up from 5.8 billion rupees ($130 million).

■ JOHN RIBEIRO, IDG NEWS SERVICE

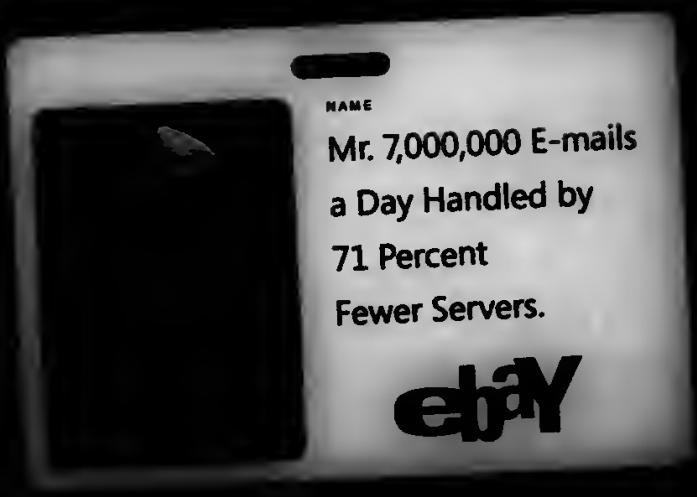
Infosys Technologies Ltd., India's second-largest outsourcing vendor, also reported robust growth in revenue and profits for the three months that ended Sept. 30. The Bangalore-based company's second-quarter revenue was 23.5 billion rupees ($524 million), up 38.3% from the year-earlier level of 17 billion rupees ($379 million). Net profit rose 44.2% to 6.2 billion rupees ($138 million), from 4.3 billion rupees ($97 million).

■ JOHN RIBEIRO, IDG NEWS SERVICE

Ford of Europe, Ford Motor Co.'s European arm, has rolled out a browser-based electronics parts catalog called FordEcat that was developed internally and is based on software from Burlington, Mass.-based Exigen Inc. Ford, which previously used outside contractors to create its electronic catalog, said it expects the new version to cut the time needed to distribute auto parts and materials to its dealers in Europe and the Middle East. The FordEcat system supports 17 languages and can be accessed via the Web or on a CD-DVD.

■ LINDA ROSENCRANCE

Microsoft



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Equant Pushes to Win More Network Deals in U.S.

BY MATT HAMBLEN
CAMBRIDGE, MASS

In August, **Barbara Dalibard** *was named president and CEO of Amsterdam-based network operator Equant BV. Dalibard is also an executive vice president at Paris-based France Telecom SA, which bought full ownership of Equant in May. After a recent technology demonstration at a facility owned by France Telecom here, Dalibard spoke with Computerworld about the company's efforts to use Equant to become a bigger factor in the U.S. telecommunications market. Excerpts follow:*

What differentiates you from AT&T and all the other network carriers? One of the main differentiators we have is global reach. We're everywhere in the world, even in places others don't want to go. Second, innovations. We really want to be on the leading edge, ahead of the pack, working with customers to invent new kinds of innovations. When you look at the amount of money spent on research at France Telecom, we're ahead of nearly any telco worldwide.

You said that your research investment will double to 2% of expenses in the next year. But isn't 2% low when compared with what software vendors spend? We don't think the same way as a software company, perhaps. A lot of our expenses are related to operating a network. We're ahead of the other operators.

How important is the U.S. market to you? Very important. We have already been working with a lot of American companies and have top [executives at mobile network unit Orange SA] and Equant who are Americans. But it's a tough market for us, as it is for most European companies. To take the example of the enterprise market, we don't plan to do everything by ourselves. We're buying services from SBC, AT&T and Verizon, depending on our customers' locations. We cannot be everywhere.

Do you need to have the best price in competitive bids to win contracts? Price is related to quality. We aren't aiming at being the cheapest-value-quality guy. We want to provide the best price for the highest quality. We manage complexity. It's not just a basic network link between two locations.

The North American market has been very, very competitive. Obviously, we have some competitors who buy [market] share by underpricing. But our customers want to have a reliable network services partner. If in five years the carrier dies because of underpricing, that's not good. **57359**

Outsourcing Group Pitches Ethics, Contract Management Standards

BY PATRICK THIBODEAU

The International Association of Outsourcing Professionals (IAOP) has released a code of ethics and a set of business-practice standards that are designed to help companies improve their processes for awarding and managing outsourcing contracts.

The standards apply to IT deals as well as other forms of outsourcing. One of the people involved in the effort was Cynthia Kearney, vice president of global pharmaceutical R&D sourcing and supplier management at Johnson & Johnson Pharmaceutical Research & Development LLC in Raritan, N.J. Kearney said the guidelines, which were issued Sept. 26, will give the parties in an outsourcing agreement a common business framework.

"I think it's a value-add when you have governance upfront," she said. "There is efficiency associated with that — the fragmentation isn't there, [and] there aren't disconnects, because there are already some principles established to how you conduct yourself in dealing with third parties."

The standards are general but weigh heavily in favor of disclosure, candor and the use of objective metrics that are agreed on by both sides.

For instance, the IAOP is asking users and vendors "to accurately represent the extent of executive support for an outsourcing relationship."

The Lagrangeville, N.Y.-based organization also is calling on companies to invest at least 40 hours annually in training and professional development activities for each employee involved in managing outsourcing contracts.

Mike Corbett, executive director of the IAOP, said the group hopes the standards will help outsourcing relationships succeed, partly by making management practices more consistent from company to company.

Kearney said she plans to form a committee at Johnson & Johnson to review the suggested standards and ethical practices and incorporate in the company's business procedures any that aren't yet in place. **57421**

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Full CA Turnaround Could Take Three More Years, Swainson Says

Repairing relationships, changing culture is 'not an overnight transition'

BY CRAIG STEDMAN
FRAMINGHAM, MASS

John Swainson, *president and CEO of Computer Associates International Inc., is approaching the one-year anniversary of his hiring as the company's top executive last November. At a CA facility here last week, Swainson spoke with reporters and editors from International Data Group Inc., Computerworld's parent company. The main topic was the status of his efforts to revamp the software vendor, which was wracked by an accounting scandal, government investigations, weak revenue growth and the ouster of former CEO Sanjay Kumar before Swainson's arrival.*

Where do things stand at CA as your first year at the company comes to an end? I think it's been an interesting year for the company. It's certainly been an interesting year for me. We feel pretty good about where we are. But it's not an overnight transition, by any means. The timeline I now recognize is about a four-year timeline, and I really couldn't have that degree of clarity when I started. There's a good reason why you go into these things a little naive (laughs).

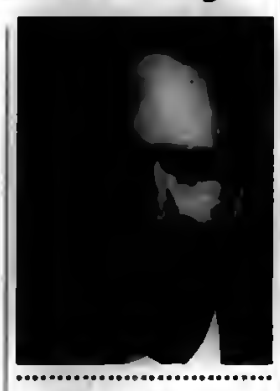
You said you've replaced half of CA's senior executives with outsiders, streamlined the company's product strategy, reorganized around new business units and made changes to the sales force. What still needs to be done? The first phase was to fix the problems. The second phase that we're in now is to set the stage for stronger growth. Our IT environment was particularly weak, which was frankly a big surprise coming in here. I expected that CA as an IT vendor would have robust systems, and we didn't and we still don't. The mechanics of installing our new SAP system and a lot of [the other internal changes] will be done in the next 12 to 18 months. The changing of CA's culture, which to some extent is first about customer relationships — those are the long-term things.

You announced the SAP project last December. Where does it stand now? We are going to do a wholesale [ERP system] replacement, which most people don't do. And we're going to do it in less than three years. We'll run our old and new systems in parallel over the last two quarters of our fiscal year in North America, and then do the same thing in Europe.

Have there been any big pain points yet? Nothing that a major amount of money can't help. It is an astonishingly expensive process. No one in their right mind does this. You do this when you're desperate, and we were desperate. There was no single source of data for anything. And in fact, much of the discussion in meetings went around whose data was more right or less wrong. The weak systems also got called out in the deferred-prosecution deal [that CA signed with the federal government in September 2004] as one of the things that contributed to the problems in the company. The systems were so loose that it allowed bad guys to get in there and do things they shouldn't have.

Sanjay Kumar's trial on charges of accounting fraud is coming up. Do you expect any fallout from that? The trial starts in April, and we expect more activity around it to start in March. There's not much we can do at this point. All we can do is tell our story and make sure people recognize that these things are part of the past. It's certainly part of the history of CA, but it's not part of the future.

Q&A



"I hope we've moved [customers] from a position of outright hostility to a position of skepticism – perhaps neutral skepticism.

JOHN SWAINSON, PRESIDENT AND CEO, COMPUTER ASSOCIATES

You said repairing customer relationships was part of the long-term process for fixing CA. So that isn't where you went in see it? Very much so. I hope we've moved people from a position of outright hostility to a position of skepticism — perhaps neutral skepticism. We have to demonstrate by what we do, not just what we say, that we're a partner worthy of doing business with, and that's going to take some time. Our intent is to get our customer-satisfaction ratings on our internal surveys up to above 80%, from somewhere below 70% now. Best of class is somewhere between 80% and 90%, and we have some work to do to get there.

It isn't just a matter of you and other executives meeting with customers? It's hardly at all about us doing that. Me going out and saying we're going to be a good partner is interesting, but it's really how our [sales] team follows up and how we act in the marketplace that's important.

One of the things that Kumar did get credit for from IT managers when he was CEO was improving relations with users. Was that overstated? Sanjay did identify that there was a problem with what I'd call the confrontational model of dealing with customers. The company made some progress on that but then became so self-absorbed with some of the [internal] problems that it became ineffective. Frankly, a lot of that momentum was lost.

What's happening in your sales force? Your first quarter was pretty turbulent in terms of turnover there. It was, but I think we're through some of the turbulence. On an annualized basis, we had about 20% turnover, which is high but not excessive for software companies. You typically have 12% to 20% turnover, so we were on the high end of the range — higher than I'd like to see it, but not crazy. I think we've made good strides in transforming the sales organization. The old joke used to be that you'd never see a CA salesperson until three months before your contract was up for renewal, and then he'd show up with his hand out.

CA has started to make acquisitions again, buying vendors like Niku, Netegrity and Concord Communications. Does your acquisition strategy differ from the approach CA took in the past? I think it's very different. CA in the past made opportunistic software acquisitions, and it didn't really seem to matter what part of the business they were in. To a certain extent, it was a random walk through the software industry because it was more focused on financial aspects than on technology or business aspects. I think that strategy served CA well for a period of time, but it ran out of gas in the mid '90s. All of the acquisitions you've seen us make [in the past year], or will see us make, are designed to expand our product portfolio or fill a niche that we haven't focused on.

Is it likely that you'll buy more companies in the near future? Yeah. You saw us do seven acquisitions [in the] last year, three of them major. That probably is a little ahead of where I expect to be a year from now in terms of the rate. I don't expect to do $1 billion worth of acquisitions in the next 12 months, but I wouldn't be surprised to see us do $500 million to $600 million worth. In the short term, you get the biggest bang for the buck [in revenue growth] from acquisitions.

CA went back and forth on holding a CA World conference this year. Do you think attendance at next month's event will be lower as a result? We made a lot of changes to CA World — we changed the time it's taking place, we changed the structure and we made it a fee-based conference. I do think attendance will be lower relative to previous years, maybe 50% lower. I hope we can attract more attention to it [in the future]. But I think it's probably a good thing for now to have it smaller and more focused. It gives me a chance to speak to an audience in a more focused way.

In terms of changing the culture at CA, can't you just say what the new culture is, and that's that? Cultures build as much from the bottom up as they do from the top down. CA has a culture today, but it's not something that anyone thought a lot about. It was just something that sprouted, and it was different [in this facility] than it was [at company headquarters]. You can communicate what you want it to be, but it's the building it up and reinforcing it that takes time. People watch what you do, not what you say. ● 57488

Feds Get Four Bids for $20B Telecom Contract

Networx pact will include voice, data and video services

BY LINDA ROSENCRANCE

Four major telecommunications companies have submitted initial bids for the U.S. government's 10-year telecommunications services contract, known as Networx and potentially worth up to $20 billion.

The Networx program is designed to provide legacy and leading-edge voice, data and video services to all U.S. government agencies.

The contract has two parts: Networx Universal, which covers 37 domestic and international telecommunications services; and Networx Enterprise, which is geared toward smaller carriers and designed to provide a core set of IP and wireless services in particular geographic regions.

The four lead bidders — MCI Inc., Sprint Nextel Corp., AT&T Corp. and Qwest Communications International Inc. — submitted proposals for the universal pact to the U.S. General Services Administration earlier this month. Each is also expected to offer proposals for the Networx enterprise work. Those bids are due today.

The GSA is expected to take up to a year to review the bids, and it could choose more than one winner, said Blake Williams, an agency spokesman.

"We have not determined the precise oumber of awards for Networx," he said. "However, we anticipate two to three for the universal acquisition and around five for the enterprise acquisition."

Although the Networx program is valued at as much as $20 billion, the government has so far committed to spend only $525 million oo the universal contract and $50 million on the enterprise contract.

And because agencies aren't required to use only Networx providers, losing bidders could still solicit business from individual agencies.

The Networx program will replace a series of contracts known as FTS2001, which will expire in 2007. MCI and Sprint hold the main FTS2001 pacts.

Warren Suss, president of Suss Consulting Inc. in Jenkintown, Pa., said the GSA must make sure the winning bidders can deliver a broad range of services. "In the government arena, unlike in the commercial arena, a response that says 'trust me' won't fly," he said.

Possible Front-runners

Suss and Sean Buckley, an analyst at Washington-based Current Analysis Inc., both gave MCI and Sprint an edge in the bidding as incumbent suppliers, but agreed that there are no guarantees.

"MCI is the incumbent," Suss said. "That's their strength going into this. They offer agencies the lowest perceived risk in terms of transition issues."

Buckley added that MCI has "served the government since the mid 1980s, so obviously they have that network reach across the world. But that doesn't always mean it's going to be a winner, either."

Sprint not only holds part of the FTS2001 contract, but also part of its predecessor, FTS2000, Buckley noted. "Sprint also has a strong wireless play that MCI doesn't have, and Sprint just bought Nextel," he said.

Suss and Buckley also gave AT&T and Qwest a chance to win the Networx contract but said that each has more hurdles to overcome than MCI and Sprint do.

Both analysts added that they wouldn't be surprised if the GSA does decide to choose more than one winning bidder. 57494

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Vendors Unveil New Supply Chain Software

Oracle, i2, Lawson and SAP plan to update tool sets

BY MARC L. SONGINI

ORACLE CORP., Lawson Software Inc. and i2 Technologies Inc. all have either shipped an updated supply chain management (SCM) system or plan to ship one over the next month.

And SAP AG disclosed last week that a new version of its SCM offering will ship by the end of this year.

Dallas-based i2 last week brought out the third piece of its Collaborative Supply Execution (CSE) applications — the Collaborative Materials Management module — that will ship with the next version of i2's SCM system, dubbed Six.Two, in November.

The other CSE modules — Consolidated Procurement and Supply Collaboration/Lean Replenishment — have been introduced over the past month. The Collaborative Materials Management module synchronizes materials planning with purchasing and procurement workflows, said Sharmistha Dubey, director of solutions marketing at i2.

Together, the new i2 CSE applications are intended to better support the company's so-called closed-loop system, which allows a company to forecast, execute and measure supply chain processes.

The upgraded software offers tight synchronization among the procurement, replenishment, supply planning and collaboration and execution processes, said Dubey.

The i2 modules will run on top of the company's Agile Business Process platform, which will ship in various parts through the rest of the year. The platform is based on a Web services integration architecture, which will let users easily replace i2's various modules when updates come out.

One user had mixed feelings about the rollout. Kevin Bott, vice president of supply chain solutions and technology services at Miami-based Ryder System Inc., said the new modules appear to be simply a repackaging of older i2 applications.

Better Communication

Bott did say that the new integration platform could help some users improve communication among the various modules, but he also noted that corporate users can get the same benefits from integrated ERP software.

Oracle's PeopleSoft Enterprise Supply Chain Management and Supplier Relationship Management 8.9 modules are said to contain 100 enhancements. The new modules began shipping in August.

The contract management module is a key piece of the release, said John Webb, vice president of supply chain application product strategy at Oracle. The tool allows companies to fully craft and then enforce supplier contracts more efficiently, he said.

Meanwhile, Lawson next month plans to extend its Mobile Supply Chain Management health care tool to other industries. The Lawson Receiving and Delivery tool lets users track packages automatically, said a spokesman.

An SAP spokesman offered few details of the SAP SCM 5.0 upgrade, but he said it will include a cross-docking module for its warehouse management application to boost the speed of inventory flow.

The updated version will also add an analytics tool to optimize the planning and execution of service parts inventory shipments. **57484**

Oracle Updates PeopleSoft Financials

ORACLE announced that it started shipping Version 8.9 of the PeopleSoft Enterprise Financial Management suite.

Oracle officials said the move confirms its promise not to force users of the acquired PeopleSoft application to migrate to Oracle E-Business Suite 11i.

Analysts, however, weren't so sure. While the upgrade will help some PeopleSoft customers better handle statutory compliance, the product line remains essentially in a "dead end" mode, said Joshua Greenbaum, an analyst at Enterprise Applications Consulting in Berkeley, Calif.

Greenbaum said he expects that Oracle will continue to release such regulatory enhancements, but he doesn't anticipate a new PeopleSoft product based on an updated code base.

Version 8.8 of PeopleSoft Enterprise shipped 20 months ago, when PeopleSoft was still an independent vendor. At that time, work had already begun on Version 8.9, which shipped on Oct. 5, said Rich Rodgers, vice president of financial applications strategy at Oracle.

"This release of SCM and Financial Management is unchanged in scope," he said. Oracle hopes that the new version will one day help PeopleSoft users migrate to Project Fusion, the best-of-breed application suite that Oracle is developing [QuickLink 52089], Rodgers said.

The new version of the financial application offers greater support for compliance with global accounting standards and best practices, according to Rodgers. For instance, Oracle has automated cash-flow statement processes to help companies comply with both international and U.S. regulations.

There is also the new Financial Gateway tool, which centralizes and streamlines payment and receipt processes, Rodgers said.

The new version also offers the Enterprise Asset Lifecycle Management tool, which is intended to help companies cost-effectively acquire, maintain and replace physical assets.

The new functions are enabled by some of the assets obtained from the J.D. Edwards portfolio of applications that came with Oracle's acquisition of PeopleSoft, said Rodgers.

– Marc L. Songini

NEW PRODUCT

F5 Builds Firewall Into App Management Devices

Big-IP Application Security Module

F5 Networks Inc.

F5 Networks' new Big-IP appliance

■ **PRODUCT SUMMARY:** Seattle-based F5 Networks last week announced a software module that adds security features to its Big-IP line of appliances for managing application traffic and performance. The Application Security Module (ASM) provides users with an application-layer firewall that's designed to protect Web-based systems against buffer overflow attacks, compromises of access-control mechanisms, worms and other problems. In addition, cloaking features are included to conceal error messages from end users. Erik Giesa, vice president of product management at F5, said the security module will be available on the 6400 and 6800 models of the rack-mountable Big-IP line.

■ **USER EXPERIENCE:** Blue Cross and Blue Shield of Kansas City in Missouri will install two Big-IP 6400s "any day now" in an attempt to increase the security of its Web applications and help improve their performance, said Larry Strickland, manager of network engineering at Blue Cross. Strickland hopes that putting the application firewall inside the Big-IP appliances will help him avoid having to run and manage it separately. "We've got a really complicated DMZ," he said, pointing to the need for increased simplicity within the health insurer's network security setup. Blue Cross has used two previous Big-IP models and has seen "consistent application performance increases" from the appliances, Strickland said.

■ **ANALYST ASSESSMENT:** Joe Skorupa, an analyst at Gartner Inc. in Stamford, Conn., said the Big-IP ASM is unique so far in offering an integrated application firewall capability. But he added that other vendors, including Citrix Systems Inc., Radware Ltd. and Teros Inc., likely will soon follow suit with similar offerings. Skorupa said the F5 software brings a firewall inside the network core, instead of just monitoring traffic at network gateways. "This way, even those users who are inside [a network] and trusted must still pass through a firewall," he said.

■ **OTHER VENDORS IN THE MARKET:** Cisco Systems Inc. The total market for application management appliances will be about $1.5 billion this year, Skorupa said. "It's a very active market, and [these appliances] are becoming a core component of the data center architecture between applications and users," he added.

■ **PRICE:** The Big-IP devices start at $34,995; the ASM software costs $12,500.

■ **AVAILABILITY:** Now.

– Matt Hamblen

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DON TENNANT

Just Wondering

I WONDER IF you noticed a fairly short news piece that appeared on page 10 of last week's issue. We ran it as a sidebar to Carol Sliwa's story about Sun Microsystems improving the compatibility of its StarOffice suite with Microsoft Office. The sidebar, headlined "Google, Sun Leave IT Out of Picture," constituted our full print coverage of the collaboration the two vendors announced at a gala news conference on Oct. 4.

Don Tennant is editor in chief of *Computerworld*. You can contact him at don_tennant@computerworld.com.

We had to cover the Sun/Google story. Anything involving Google tends to generate a lot of buzz, and chances are you heard that there was something going on between the two companies. You needed to know if you need to care.

As we were able to convey in those 12 inches of copy, you don't. Tom Austin, a Gartner analyst quoted in the story, put it very succinctly. "The corporate IT angle is what they didn't announce," he said. "The deeper I dug, the less there was." And as Lee Gomes of *The Wall Street Journal* noted in a great column last week, the announcement was "a model for how well-known companies can make a major media event out of a nothingburger."

Yet it was entirely too predictable that some in the technology media would be making nothingburger hash last week. They served up what Sun and Google ordered: a mouthpiece to help prolong the buzz. I can't say that I blame the vendors. Hey, if it was my job to make more money for my shareholders, I'd want there to be a lot of buzz, too.

But as a journalist, it bothers me to see the technology media being used this way. It bothers me to see publications so willingly give expansive, front-and-center coverage to a story like this, complete with the requisite ridiculous photo of Sun's Scott McNealy and Google's Eric Schmidt goofily grinning at each other.

The consistent success IT vendors enjoy in driving news coverage in the technology press is just maddening. Unquestionably, a large part of our job is to cover key developments that take place on the all-too-garish IT vendor stage. You need to know what your vendors are up to in order to do a large part of your job. At *Computerworld*, we recognize that you rely on us to sift through the vendor hype to find those news nuggets you need to know about.

That's why we approach vendor-generated developments with our own agenda: We're out to determine what, if anything, the "news" means to you, and to take advantage of any vendor access we get to address issues that are likely far more important to your business than whatever's being announced under the spotlights. The fact that high-profile vendors stage an announcement spectacle with all the showmanship and choreography we've come to expect simply isn't a good enough news hook for us. And we're very much aware that it isn't for you, either. That's why you read us.

I wish it didn't bother me that others in the technology media fall for this stuff, but it does. I can just picture the PR teams at Sun and Google reading some of the coverage they got last week, and high-fiving each other at their success. Sometimes I wonder what they're really thinking. I wonder if they have to chuckle at the way the crumbs they toss out are so eagerly licked up.

But more than anything, I wonder why some in the tech media allow themselves to be used. And I wonder why on earth they don't care. 57497

Don Tennant

MICHAEL H. HUGOS

The Rhythm of the Quarters

JUST AS FARMERS and people who make their living from the land have a rhythm to their lives that is set by the four seasons, so too do corporate CIOs (whether they know it or not). Instead of the four seasons, we in business have the four quarters. Each quarter has its demands and opportunities. Like good farmers who prosper by responding appropriately to each season, CIOs make the best use of the opportuoities presented by each quarter if they are to prosper.

The rhythm of the quarters isn't quite as well defined as the rhythm of the seasons, but here's my take on it based on my years as a reasonably successful (knock on wood) CIO.

Michael H. Hugos is CIO at Network Services Co., a distribution cooperative in Mount Prospect, Ill., that sells food-service and janitorial supplies. He is the author of *Building the Real-Time Enterprise: An Executive Briefing* (John Wiley & Sons Inc., 2004). He can be reached at mhugos@comcast.net.

In the first quarter, we need to get out of the gate quickly and get started on the major development projects for the year.

In the second quarter, we have to achieve the first round of project milestones and make any needed mid-course corrections.

In the third quarter, new systems and enhancements need to be built and put into production.

In the fourth quarter, the successful CIO reaps the benefits of a good harvest and begins planning projects for the coming year.

"Well heck, Mike," you say, "that makes it seem downright obvious and easy." Or you may be saying things like, "What is this guy talking about? Maybe he ought to be a farmer instead of a CIO." Hear me out, though.

In the first quarter, the CIO has 30 days to finalize agreements with business executives on what IT projects are to be done. That means under-

DON TENNANT

Just Wondering

I WONDER IF you noticed a fairly short news piece that appeared on page 10 of last week's issue. We ran it as a sidebar to Carol Sliwa's story about Sun Microsystems improving the compatibility of its StarOffice suite with Microsoft Office. The sidebar, headlined "Google, Sun Leave IT Out of Picture," constituted our full print coverage of the collaboration the two vendors announced at a gala news conference on Oct. 4.

We had to cover the Sun/Google story. Anything involving Google tends to generate a lot of buzz, and chances are you heard that there was something going on between the two companies. You needed to know if you need to care.

As we were able to convey in those 12 inches of copy, you don't. Tom Austin, a Gartner analyst quoted in the story, put it very succinctly. "The corporate IT angle is what they didn't announce," he said. "The deeper I dug, the less there was." And as Lee Gomes of *The Wall Street Journal* noted in a great column last week, the announcement was "a model for how well-known companies can make a major media event out of a nothingburger."

Yet it was entirely too predictable that some in the technology media would be making nothingburger hash last week. They served up what Sun and Google ordered: a mouthpiece to help prolong the buzz. I can't say that I blame the vendors. Hey, if it was my job to make more money for my shareholders, I'd want there to be a lot of buzz, too.

But as a journalist, it bothers me to see the technology media being used this way. It bothers me to see publications so willingly give expansive, front-and-center coverage to a story like this, complete with the requisite ridiculous photo of Sun's Scott McNealy and Google's Eric Schmidt goofily grinning at each other.

The consistent success IT vendors enjoy in driving news coverage in the technology press is just maddening. Unquestionably, a large part of our job is to cover key developments that take place on the all-too-garish IT vendor stage. You need to know what your vendors are up to in order to do a large part of your job. At *Computerworld*, we recognize that you rely on us to sift through the vendor hype to find those news nuggets you need to know about.

That's why we approach vendor-generated developments with our own agenda: We're out to determine what, if anything, the "news" means to you, and to take advantage of any vendor access we get to address issues that are likely far more important to your business than whatever's being announced under the spotlights. The fact that high-profile vendors stage an announcement spectacle with all the showmanship and choreography we've come to expect simply isn't a good enough news hook for us. And we're very much aware that it isn't for you, either. That's why you read us.

I wish it didn't bother me that others in the technology media fall for this stuff, but it does. I can just picture the PR teams at Sun and Google reading some of the coverage they got last week, and high-fiving each other at their success. Sometimes I wonder what they're really thinking. I wonder if they have to chuckle at the way the crumbs they toss out are so eagerly licked up.

But more than anything, I wonder why some in the tech media allow themselves to be used. And I wonder why on earth they don't care. 57497

Don Tennant

MICHAEL H. HUGOS

The Rhythm of the Quarters

JUST AS FARMERS and people who make their living from the land have a rhythm to their lives that is set by the four seasons, so too do corporate CIOs (whether they know it or not). Instead of the four seasons, we in business have the four quarters. Each quarter has its demands and opportunities. Like good farmers who prosper by responding appropriately to each season, CIOs make the best use of the opportunities presented by each quarter if they are to prosper.

The rhythm of the quarters isn't quite as well defined as the rhythm of the seasons, but here's my take on it based on my years as a reasonably successful (knock on wood) CIO.

In the first quarter, we need to get out of the gate quickly and get started on the major development projects for the year.

In the second quarter, we have to achieve the first round of project milestones and make any needed mid-course corrections.

In the third quarter, new systems and enhancements need to be built and put into production.

In the fourth quarter, the successful CIO reaps the benefits of a good harvest and begins planning projects for the coming year.

"Well heck, Mike," you say, "that makes it seem downright obvious and easy." Or you may be saying things like, "What is this guy talking about? Maybe he ought to be a farmer instead of a CIO." Hear me out, though.

In the first quarter, the CIO has 30 days to finalize agreements with business executives on what IT projects are to be done. That means under-

standing the business strategy and the IT alignment needed to support the strategy.

In the last 60 days of the first quarter, the CIO needs to see to it that project teams of qualified people are assigned to each agreed-upon project and that they get off to a fast start. Each team has to understand the business goal of its project and define the performance requirements for the system it will build. The team comes up with a conceptual system design showing high-level business processes and the technology they'll use to support those processes. They also do a return-on-investment analysis and adjust their conceptual design if required so the cost of the system doesn't exceed the value of the benefits it will deliver. Although the CIO doesn't actually do this work — the team does — the CIO still makes sure it all gets done in a timely fashion.

In the second quarter, the teams flesh out their conceptual designs and prototype the system user interface and technical architecture. The prototypes must verify that the system will work as expected, or the system has to be rethought and prototyped again. Then the team produces a set of detailed design specifications to build the system. Those design specs are the workflow process maps, the system data model, the user interface and the technical system architecture. The CIO should watch this process like a hawk. The CIO guides, assists and cajoles the teams as necessary to keep them on track and on time.

By way of analogy, when farmers here in the Midwest talk about their corn crops, they say, "It needs to be knee-high by the Fourth of July." If it isn't, there's not much hope of a good harvest in the fall. If project teams haven't finished their detailed system design specs by the end of the second quarter, there isn't much hope that they can deliver anything by the end of the third quarter or even the fourth quarter.

In the third quarter, the project teams focus on building their systems. By the end of the third quarter, the first versions of the new systems and business processes should be rolling out to users. If this isn't happening by the end of the third quarter, there won't be any rewards for the CIO to reap in the fourth quarter.

In the fourth quarter, the CIO assesses the impact of the new systems and begins discussions with the business executives about what will be needed next year. Year after year, I have seen this as a very successful pattern to follow. This is the way I run my farm — I mean my IT operation. I've also noticed that I have to produce a good harvest each year in order for the business to feel good about giving me a decent budget for the next year.

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READERS' LETTERS

Skills Should Decide Who Gets IT Jobs

I TEND TO AGREE with most of Stefan Steurs' analysis of the economics of outsourcing ["Offshoring: A View From Europe," QuickLink 55190]. However, when he says, "True, Americans and Europeans sometimes lose jobs to these people, but aren't we overrepresented in terms of the proportion of the world's IT workers to our relative populations? Can it be called fair that we deny people of the largest countries in the world a fair share of the market?"

I'm concerned about terms such as *overrepresented* and *fair* in this context. Is it fair that I've been denied the right to play in the NFL? Or is it just because my skills in that area are simply woefully inadequate? No one has been "denied a fair share" of the market.

And I believe recent history illustrates that – as soon as some of these other countries were able to offer competitive labor, it was employed quite quickly, bringing us to the current discussion.

Christopher Meisenzahl
Senior automation engineer, Lima, N.Y.

Objectivity Regarding Mac Is Appreciated

I USE A MAC AT HOME and Windows at work, and I've seen more than enough "This is why Mac will never work in the enterprise" articles to last a lifetime. I found Douglas Schweitzer's column fair and balanced, which is refreshing ["A Convert With a Crush on His Mac," QuickLink 55803].

I prefer to use the Mac because I find it more stable and user-friendly, but I also recognize that you want the right tool for the job. I'm sure you'll get some extremist e-mail responses (i.e., "Macs stink" or "Macs rule"), but it was great to read a real-world experience that wasn't biased.

Bill King
Senior network engineer, Mt. Laurel, N.J.

Many Managers Obstruct Productivity

I MUST TAKE EXCEPTION to Paul Glen's statement about managers: "On the path of managerial value, you add more value by making others more productive" ["Managers' Forum," QuickLink 54660].

I have been in IT for over 20 years, and I have seen few managers who help with productivity and many who are obstacles.

Glen J. Gasior
Greenville, S.C.

Boomer Mainframers Still Offer Expertise

THERE ARE A LARGE NUMBER of us former mainframe professionals who endured the layoffs of the '90s and are still interested in working in that environment ["Shortage of Mainframe Skills May Give IT Execs Gray Hairs," QuickLink 55867].

The perception seems to be that young college graduates are the only source of these skills. Not so. Yet baby boomers aren't even being granted interviews. Perhaps there's an assumption that our pay requirements will be higher (not necessarily true) or that any training costs won't be recouped during our remaining work lives (also not true).

After spending 16 years with IBM and another six with a local mainframe-based company here in Minnesota, I would welcome the opportunity to renew my finely tuned mainframe network skills and expand them into mainframe programming for the next 15 to 20 years, but I must await a change in hiring practices to loyally devote the rest of my working years to the vocation I have always loved.

Richard Giltner
Training specialist, Minneapolis

Leave Organizing Files to Computers

I ENJOYED THE ARTICLE "Death of the File System: It's About Time," by Geoff Barrall [QuickLink 55830], very much, but I think the "new" way of storing and accessing files can be taken even further.

For instance, why would a user ever need to specify the location of any file? If he can immediately gain access to it, who cares where it's kept? This would allow the operating system to intelligently organize and archive data, hopefully providing a much less fragmented system of storage and also a more optimized disk-access subsystem.

Also, if the contents of files can be searched, why make a user name a file? Shouldn't I just be able to type (or even better, speak) "Last year's tax returns" and have the operating system find and open the relevant files?

Let the computer do what computers do best: organize things.

Sean Finn
Software developer, Chicago, bergendag@gmail.com

Health Records Need Standards for Data

GREAT ARTICLE ["Reinventing EHR," QuickLink 55837], but the real key will be to get everyone singing from the same hymnal. Other than the VA, who is marketing software that can produce data files that can go from one facility to another using a different package? Other than MDS, what data standards are there?

Patrick O'Shea
IT administrator, Air Force Retired Officers Community, Falcons Landing, Potomac Falls, Va., poshea@falconslanding.org

Why IM Shouldn't Be Treated As a Problem

WHY CAN'T THESE COMPANIES just be *truthful* and say that they don't want their users to have a useful tool that IT doesn't control ["Sarbanes-Oxley Trumps IM at Some Firms," QuickLink 56025]?

There are more than enough controls and safeguards available to prevent virus infections. If you're going to get one from IM, then you are going to get one from your e-mail. Why? Because you have not taken the steps necessary in a world of hackers.

My employer runs Symantec Corporate 10, and we've never had a problem from IM or e-mail.

Ed Evans
Microcomputer specialist, Texas A&M University, College Station, evansed@tamu.edu

Longhorn Jokes Lost With Windows Vista

WITH LONGHORN now dubbed "Windows Vista" by Microsoft, I've lost some good jokes: A gutted subset for bottom-of-the-line computers could have been dubbed "Shorthorn." And a special version designed for PDAs, a la Windows CE, could have been given the name "Shoehorn."

Louis A. Carliner
Masaryktown, Fla., lcarliner@earthlink.net

More letters, page 28

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Janue Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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READERS' LETTERS

Instant Messaging Is a Moving Target

ONE POTENTIAL REASON why there hasn't been pushback on restoring instant messaging systems on the desktop at the companies mentioned in the story "Sarbanes-Oxley Trumps IM at Some Firms" [QuickLink 56025] is that the technology has moved on. IM is available on most cell phones nowadays, either directly as IM or indirectly via SMS. I'm going to guess that many IM users do their workday messaging through their cell phones rather than through a laptop.

Winston Lawrence
Architect, enterprise applications, New York

DIANA MCKENZIE, chairwoman of the IT group at a Chicago-based law firm, is quoted as saying, "You can't control a phone call, so I don't see what the difference is between IM and a phone call." Though I agree that it's hard to control the content of either, the practices and requirements regarding the recording and archival of phone vs. other electronic communications are well established. How many wiretapping cases have been heard establishing precedence on recording phone conversations? Far more than that of e-mail or IM recording.

The implications of the legal requirements of Sarb-Ox (and even HIPAA, Gramm-Leach-Bliley and others) have not yet been fully established in the courts. That alone makes sufficient distinction when it comes to corporate decisions regarding risk and unknown factors. IM is one such risk that one may well choose to discontinue until the legal environment solidifies.

Alan Mercer
Director of technology integration, Baltimore

Responsible Firms Protect Their E-mail

THE TENOR OF THE ARTICLE "E-mail Exposure: Is Your Company Liable?" [QuickLink 55572] is just one more indication of the lows to which we have sunk as a society when it comes to blaming others for our own missteps. Corporations should exercise responsibility in this area. If they use electronic communications of any type but don't properly safeguard themselves from the potential dangers (by using firewalls, virus protection software, etc.), they are more responsible than anyone else should a virus or worm be transmitted to them or their corporate databases.

How much is the integrity of your corporate data worth? I'm proud to say that I work for a company that takes great pains to protect itself from such problems and has been exceedingly successful at doing so.

Jim Lawrence
QA analyst, Mechanicsburg, Pa.

Execs Aren't Always To Blame for Failures

LACK OF EXECUTIVE SUPPORT is often blamed as a cause of project failure when in fact it's an effect of a project that is already failing ["The Elusive Executive Sponsor," QuickLink 55508].

Robin F. Goldsmith
President, Go Pro Management Inc., Needham, Mass., robin@gopromanagement.com

How to Secure Linux, Unix Database Files

I ENJOYED C.J. Kelly's article "Getting Started on Database Security" [QuickLink 55461] very much. One thought I might add to hers on file privileges on Unix and Linux follows.

When I was doing this sort of thing years ago (before there were any "security manager" jobs), I secured databases and access by using the "user" and "group" access bits, so that all database files – data and executables – were owned by an application-specific ID and/or the database application group and were otherwise unshared. The SQL-running utilities (such as iSQL for Sybase) were strictly owned by the database application ID and strictly unshared, with the user and group bits on. When the SQL utility was needed in an application, it was launched from within that application.

That, combined these days with a robust, external user authentication system, would seem to secure the data rather well. These days, total database encryption is an option, although in the old days there was too big a performance price for it.

Dick Lincoln
Skillman, N.J.

Hold Outsourcers Liable for Data

THE ARTICLE CALLED "Report: Black Market Growing for Offshore Data" [QuickLink 56243], which detailed the compromising of Australian customer data by outsourcers in India, is very disturbing. In order to save money, companies appear to be willing to gamble on third-party outsourcers, be they in the same country or in a foreign country. I suspect the feeling among many companies is that they can always blame someone else and escape penalties. This should not be possible.

I would suggest that lawmakers around the world revise their privacy protection laws to hold all parties equally responsible. For example, if Megasales of Chicago contracts with Cheapcalls of Bangalore, India, to handle calls, and Cheapcalls compromises the data of Megasales customers in a way for which the penalty is $1 million, then both Megasales and Cheapcalls should be penalized $1 million. This is akin to the law related to accessory before the fact of a murder, in which all parties may be found guilty of murder, regardless of who pulled the trigger or wielded the knife.

Joe B. Davis
Fort Lawn, S.C., jbdavis@infoave.net

Projects Need Rules For Regular Workers

I HAVE JUST FINISHED reading Andy Boynton's "Throw Out the Rules" [QuickLink 55578], and I feel like I am back in the 1970s. I have led and been successful with elite teams on critical projects for large companies, and I know there are rules that are necessary for effective development and deployment of applications. Not the least of these is the requirement to meet standards for documentation of completed work so that others not so elite can run, manage, change and make additions to the team's work after they are long gone.

These are not arbitrary rules and standards but are necessary if chaos is not to be created, as will happen if the teams have not incorporated links and business rules so that their product fits seamlessly into the work queue.

By all means, do not omit the type of team defined in the article. But do not infer, as I believe the author has done, that they are the be-all and end-all for success. Nothing could be further from the need to deal with the complex real world of the business.

Norman H. Carter
President and CEO, Development Systems International, Los Angeles, dsicarte@sbcglobal.net

Mainframer Experts Deserve Better

AFTER READING the article "IBM, Users Work to Attract Young Mainframers" [QuickLink 56383] and the related "Shortage of Mainframe Skills May Give IT Execs Gray Hairs" [QuickLink 55867], I suspect that what U.S. employers really want is to attract the younger, low-wage, entry-level type of employees into the mainframe world.

In today's labor market, U.S. employers have gotten used to exploiting MCSE types at $10/hour jobs and want the same advantage over mainframers. What else explains the number of veteran DP'ers and mainframers either underemployed or in the unemployment line?

Steve Vouchak
Contract consultant, Pittsburgh, youscs@hotmail.com

Relational Data Storage Paradigm Is a Valid Response to Complexity

SCHEMA COMPLEXITY is a real problem, but it is not due to the relational paradigm ["Time for a New View of Data Management," QuickLink 55953]. The simple fact is that the domain of information managed as data has grown larger than the average IT professional can understand. No change in representational methods, data communication protocols or analytical processing engines can reduce the inherent complexity of the universe of knowledge that today's business users want to control.

The problems created by excessive normalization or by incorporation of all known data into a single schema are not fundamental properties of the relational paradigm; they are design choices made by data architects. There is nothing inherent in the relational methodology to prevent creating a system of understandable chunks of knowledge, each linked to others by join tables in the same way that the fact table of a star schema joins all the dimensions in a dimensional hypercube data warehouse. There is also nothing in current relational DBMS technology that requires all data for all purposes to reside in a single database, or in multiple databases managed by a single DBMS instance or engine.

There are three properties that are guaranteed by valid relational models that can't be guaranteed any other way. The first is that any correctly stated query will resolve into some result set.

The second is that every atomic fact is stored only once, so while the data may be incorrect, it can't be inconsistent.

The third is that if proper integrity constraints are used, any data once stored can be retrieved by a properly formulated query regardless of any other data insertions, deletions or modifications that may have occurred since that data was entered. No other data storage paradigm developed before or since can provide these assurances.

XML, OLTP, Web services and all the other modern methods invoked by Curt A. Monash are not essentially primary data storage methods. They are application-based approaches to data usage. One fundamental fact of the history of data storage is that data itself, and its inherent relationships, are 10 times more stable than the business uses to which it is put, the processes executed upon it and the applications used to perform those processes. There has to be a place to keep one real, certain copy of the actual, atomic information, regardless of how it arrived, where it will go and how it will be input and output.

Issues of input data quality, missing data and security are not inherent to relational methods, having first arisen long before the relational paradigm was invented. Problems of complexity, human error, trust and the like will always be with us, as will the need for protocols, procedures, training and skills with which to mitigate those problems.

Replacing structured data storage with unstructured data storage will certainly not make them go away, and it will certainly bring back those problems that we now do not have because they were solved by the advent of relational structured methods.

David P. Vernon
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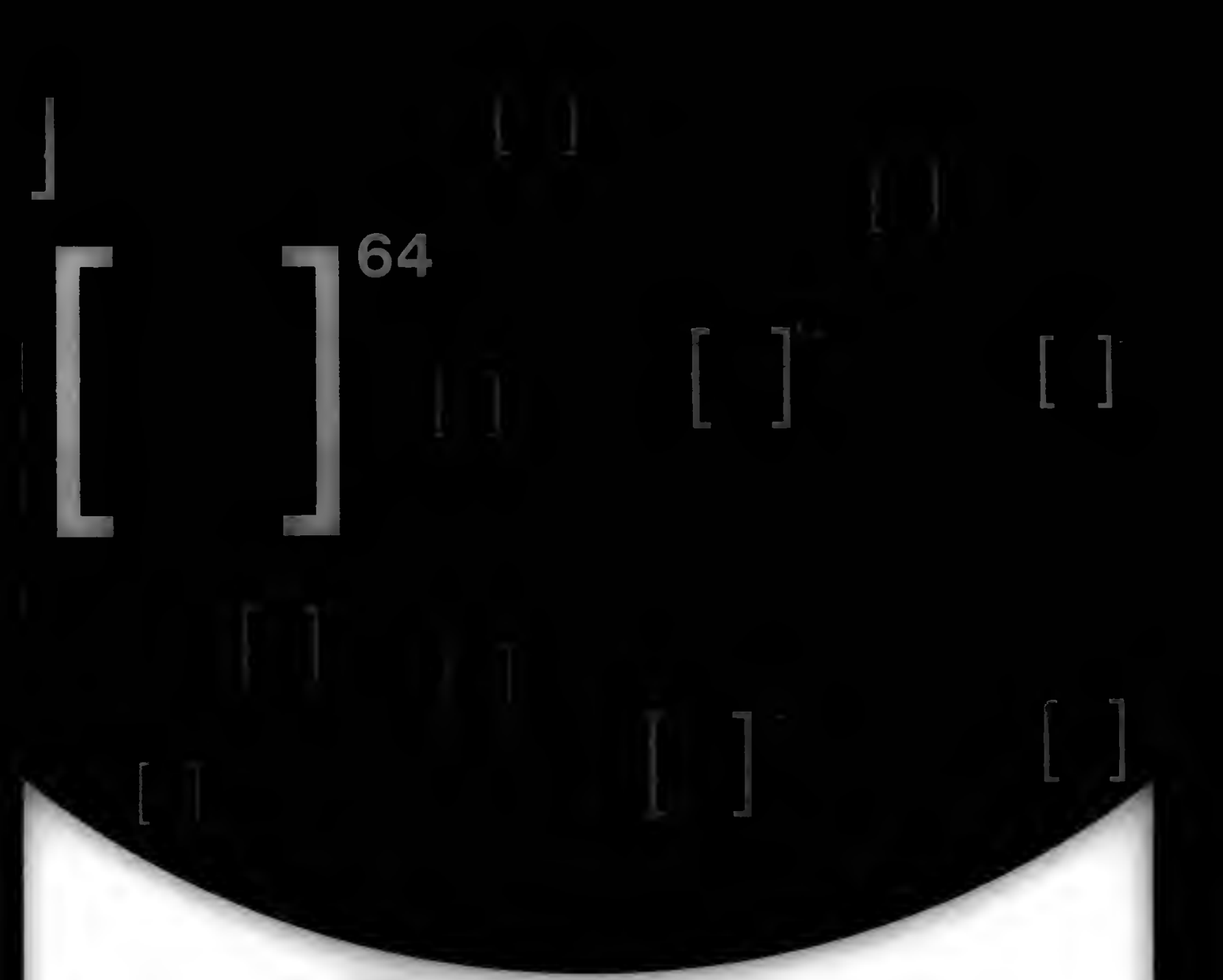

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Business in the DRIVER'S SEAT

IT governance can be hard to define, but companies increasingly impose policies and use software tools to optimize projects, processes and assets and make sure they can audit them. By Sue Hildreth

IT WAS THE LATE 1990s, in the busy, boom years of high tech. At The Burlington Northern and Santa Fe Railway Co., IT employees were scrambling to tackle a backlog of IT projects that had accumulated during a merger that the railroad had recently completed. The joining of the Burlington Northern and Santa Fe railroads into BNSF had necessitated an all-out effort to merge the two companies' IT systems — a huge project that IT staffers had dubbed jokingly their "mission from God." Now, however, they were playing catch-up with all of the other IT demands of the two companies — an effort that was threatening, they say, to become their "mission from hell."

"We had to ignore the other IT needs of the mere mortals in the business to get the merger done," says Jeff McIntyre, assistant vice president of technology services at Fort Worth, Texas-based BNSF. "But we knew we would have a barrage of demand afterward."

To get a handle on the projects, McIntyre and his staff deployed TeamPlay software from Primavera Software Inc. in Bala Cynwyd, Pa., to catalog all the projects and break them down into steps and required resources. That project management effort was the first stage in BNSF's eventual IT governance program.

Why Governance?

Project management is one of several IT management fields that have come together under the broad umbrella of IT governance. Today, governance includes not only project management but also change management, application life-cycle management, asset and resource management, portfolio management and, often, security management. It's essentially the comprehensive management of every component of IT operations and entails cataloging, tracking and orchestrating IT projects, processes and assets.

The reasons for implementing IT governance are as varied as the category is broad. For some organizations, IT governance is mainly driven by the need to comply with regulations like the Sarbanes-Oxley Act. It means creating audit trails and storing files in a more organized way. For others, IT governance is all about squeezing extra efficiency out of the organization and making sure that IT is supporting the most critical business needs. And for yet others, it means enforcing the company's best practices.

"It's a very broad and fuzzy topic, but basically there are four elements of IT governance," says Rob Dietrich, chief technology officer at MKS Inc. in Waterloo, Ontario. "The first is aligning IT with the strategic goals of the business. The second is effective and efficient use of resources. The third is risk management. The fourth is visibility into the overall IT operation."

Like BNSF, many companies took their first steps into IT governance with project management initiatives and software. Over the past several years, the category has grown to incorporate a growing range of management and technology capabilities.

At BNSF, one of the forces driving the adoption of

IT governance was the need to comply with Sarbanes-Oxley, which mandates openness and audit trails in financial reporting. A private audit had recommended changes to BNSF's development process, since many of the applications involved financial activities. To ensure compliance, IT managers implemented another type of tool that has become part of the IT governance portfolio — application management software. Application management products provide automated workflows and electronic sign-offs that help to enforce consistent and auditable development processes. BNSF chose tools from MKS.

Sarbanes-Oxley "certainly had an impact on the application development life cycle and the need for it to be crisply documented, with sign-offs and so forth," says McIntyre.

Defining IT Governance Applications

Many IT management applications claim to enable IT governance, mainly because there are so many IT functions that can benefit from governance.

"It is an emerging market, and vendors approach it from different angles," says Jason Bloomberg, an analyst at ZapThink LLC, an IT research and consulting firm in Waltham, Mass. An effective, full-fledged IT governance product must perform four functions, he says. "It must provide a way for management to communicate its policies. It must give rank-and-file employees a way to implement the policies. It must give management visibility into whether the policies are being followed. And it should include mitigation techniques, so if there is a problem, there is a way to fix it," he says.

IT governance applications may also support one of the major IT best practices frameworks, such as the Control Objectives for Information and Related Technology, the Committee of Sponsoring Organizations of the Treadway Commission's internal control and enterprise risk management frameworks, or the Information Technology Infrastructure Library, which publishes best practices guidelines for things such as change management, problem management and security management.

"Don't look at IT governance as just a technology solution, but as a business framework," advises Kris Lovejoy, CTO at Consul Risk Management Inc., a provider of compliance products and services in Herndon, Va.

Gaining Control

As one CIO quipped, the biggest benefit of IT governance at his organization is that "no one's gone to jail yet." There's no doubt that complying with Sarbanes-Oxley and keeping senior executives out of trouble is a key driver behind many IT governance projects. Nevertheless, the greatest operational payback often comes from improving asset and resource management, says Melinda Bailou, an analyst at IDC, an IT research firm in Framingham, Mass.

"There is a lot of politicization around resource allocation, with different groups vying for the same constrained resources," she explains. "Unfortunately, most organizations barely have an inventory of their applications."

Pittsburgh-based Highmark Blue Cross Blue Shield is a case in point. With 121 applications and some 60 million lines of Cobol and Java code, the insurance provider had a large investment in code and a good reason to want to increase component reuse.

Last year, Highmark discovered that despite the existence of a component-reuse strategy for internal software development, programmers weren't recycling code. The reason: They simply didn't know where to find these reusable components. "We have a component strategy, but we weren't getting the level of reuse we expected because people didn't have a place to go to find out what's available," says Mike Kronenwetter, vice president of technology management at Highmark.

To provide a central library of such components, Highmark bought Logidex from LogicLibrary Inc. in Pittsburgh to house and manage its software assets. "Now Logidex will be the system of record for all our development assets," says Kronenwetter.

Integris Health Inc., a not-for-profit health care organization in Oklahoma City, also needed better oversight of its IT resources. In 1999, Integris' IT staff was stretched thin from handling tasks relating to a recent merger and was caught in a tug of war between competing business managers from the newly merged units. IT couldn't easily prioritize projects because it lacked a standard process for doing so, and IT staffers had no standard place for tracking projects and storing their project files. When someone called in sick, a replacement might spend hours trying to locate needed files and documents.

So the organization decided to consolidate all of its IT data — everything from metadata on applications and hardware to project budgets and employee time sheets — into a single database. The idea was to be able to analyze and report on related data more easily, explains Cynthia Hilterbrand, formerly director of IT business development and planning at Integris. "We wanted to get our arms around things and track and monitor all our resources and projects," she says.

Integris didn't stop with merely cataloging its data, however. Using Compuware Corp.'s Changepoint management software, the organization began tracking IT projects and tasks and defining processes for all sorts of IT activities such as purchasing equipment or handling medical records.

Automating Processes

Like asset management, process management is another area in which IT governance can provide benefits. A corporation can define its guidelines for every IT activity and then code that into the workflow of the IT governance software. Each activity will then be automated so that employees can't easily deviate from the prescribed process. That enables IT to better enforce standards on all employees, regardless of rank.

"Executives wouldn't always follow their own rules," says Hilterbrand. "We needed IT governance, which says, 'OK guys, these are the rules and we all have to play by them.' It makes everything visible."

Governance software can help enforce policies by imposing automated workflows, checklists, status alerts and sign-offs. It can also provide an audit trail to prove whether an organization is following its own stated processes — something that has become particularly important for companies seeking to comply with Sarbanes-Oxley.

The process management aspect of IT governance can also deliver benefits in the management of outsourcers. Processes inevitably differ among organizations, and communication can be difficult when dealing with a remote IT team.

When Tyco Fire and Security in Boca Raton, Fla., decided to install VA Software Corp.'s SourceForge software development management application, the manufacturer of fire protection and security products hoped to standardize processes between its offshore contract programmers and its in-house IT staff. Tyco had problems with projects missing deadlines, processes not being followed and quality goals not always being met.

"We felt it was getting nearly out of control," says Kristine Koneck, director of global technology services at Tyco. "We couldn't keep track of what our outsource partner was doing." Also, developers wasted a lot of time — as much as eight hours a

The IT Report Card

IT governance isn't just about enforcing policies. As Jeff McIntyre, assistant vice president of technology services at Burlington Northern and Santa Fe Railway, observes, governance can also help IT prove its value to the business side of the organization.

The 1,900-member IT staff of BNSF carefully records every hour they worked, listing the project and department for which the work was done. That information then becomes part of a report card the staff has dubbed "Showback" – a mock form of a "chargeback" – that's distributed to business managers to show them how they're using IT resources.

"We can drill down and see how much of the IT expenses were used by the marketing department and which applications were used, which people, what PCs and printers, the telecommunications expense, etc.," says McIntyre, who adds that the system not only shows business managers where the IT money is going but also inspires IT workers to make applications and IT systems perform more efficiently.

"They can see now that if this module were tuned better, it could result in fewer hours of computing consumption," says McIntyre. "We've banked anywhere from $1 million to $2 million in savings a year in our operating budget over the past couple of years."

– Sue Hildreth

week — searching for work-related documents, she says.

The SourceForge tool provided them with collaborative tools, a repository for storing all project files, and defined workflows to enforce processes and deadlines. Since implementation, the oumber of projects delivered on deadline has risen by 30%, according to Koneck.

Toward an IT Governance Platform

While many products within the IT governance arena still target only certain functions, such as project management or security management, a growing number are building or buying additional modules to span virtually all IT activities, uniting them under a single dashboard.

For instance, Lovejoy points to BMC Software Inc.'s suite of products, which together cover identity managemeot, asset management, application management, event management and change management. Likewise, vendors such as IBM, Computer Associates International Inc. and Mercury Interactive Corp. also have products that can make up much, or all, of an IT governance suite.

The value of having various governance tools in one suite is that they offer the ability to share data for analysis and reporting and to provide a dashboard view into whatever combination of information a manager wants to see.

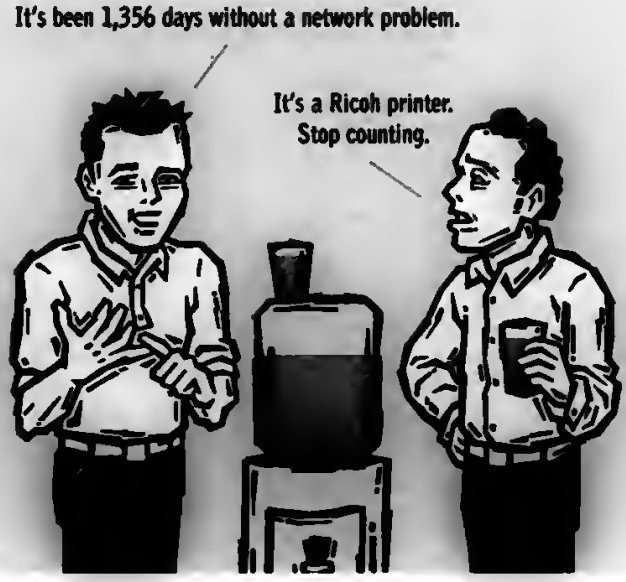
FIVE OF THE DISCIPLINES INCLUDED IN IT GOVERNANCE

The benefits of this suite approach became obvious to Nielsen Media Research Inc. after it implemented Mercury's IT Governance Center software earlier this year. New York-based Nielsen started with the product portfolio management component, then added resource management. It plans to soon add the demand management and program management components.

Because all of these functions are components in the IT Governance Center suite, Nielsen can easily implement them as needed. Moreover, managers can quickly view all data pertaining to a particular product or program via a central dashboard, says Christina Carbone, a director for quality and measurement at Nielsen. The company also uses Mercury's TestDirector and Quality Center tools, which will be integrated with the demand management component for better management of the daily production of products.

As Carbones explains, "Having that single view of your portfolio, resources, demand management, testing requirements and project status — it gives you a single view into the total health of all of your projects." **57257**

Sue Hildreth is o freelance writer based in Waltham, Mass. She can be reached at Sue.Hildreth@comcast.net.



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The Scope of Governance

STRATEGIC ALIGNMENT	Aligning business needs with IT
VALUE DELIVERY	Optimizing expenses and proving the value
RISK MANAGEMENT	Safeguarding IT assets and providing for disaster recovery and the continuity of operations
RESOURCE MANAGEMENT	Optimizing the use and understanding of IT infrastructure
PERFORMANCE MEASUREMENT	Tracking project deadlines and monitoring IT services

SOURCE: ZAPTHINK LLC, WALTHAM, MASS.

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OFFICE Renovation

Microsoft's man in charge of Office takes a look at the desktop app from a developer's point of view.

Microsoft Corp. Senior Vice President **Steven Sinofsky** *manages research and development for the company's Office System products. He recently spoke with* Computerworld's *Carol Sliwa about the new Office 12 release, which is due next year.*

What is your vision for corporate IT developers who write enterprise applications? Are you trying to get more of them to use Office as the user interface to the applications they develop? For many, many years and many releases, corporate IT shops have used Office as a front end for their systems, whether it's expense reporting in Excel or contract preparation in Word, or even presentation libraries in PowerPoint, and certainly Access for tracking or for applying different data sources.

What we've heard from them is that much of their application development is moving to much bigger line-of-business systems. It used to be, "Build a quick solution using Word to do contracts that work in the department." Now they want those contracts to be connected to the line-of-business data. So what we've done, starting with Office 2003, is really increase the level of platform support for building line-of-business solutions.

In what ways? Let me give you two examples. One is the XML file format in Office, which we released the specifications for. We've had some of that in Office 2003. All the solutions that involve Office involve manipulating files and working with them. Today, to do that, you have to start up the Office client and manipulate the file through the object model. That's very tricky code to write, and it's been a source of engineering challenges.

With the XML file format, you can actually use any standard XML tool to create and manipulate the information in the document. You could write a server process that, from the ether, synthesizes an Office document. You can build an XML transform that would take a document and extract the summary of it or change some of the properties and retarget it for another use. Those are the kind of things that people used to write a lot of code for, but you can now do it in a more robust way with the open file format.

At the other end of the spectrum are examples about the whole role of using a server as a place to store important data. I visited a United Nations organization that relies heavily on Access databases. The problem that the IT group had [was] they found the same Access databases copied all over their organization, and they couldn't figure out which one was the definitive copy.

What IT has lacked is a server platform to build an application on in an easy way. So what we've built with SharePoint is a way for end users to easily create those tables that they want to use as lists. They can use tools like Access for fancy reporting. And IT can control and manage that data out on SharePoint, and it scales for the enterprise. That's so much easier than trying to say, "What we'd really like to do is put it all in SQL," because once they say that, they become the bottleneck for getting that work done. They don't have the resources for every little group that wants to have a database.

Sinofsky was responsible for the design, implementation and marketing of Office and overseeing the development of Office 2000 and Office XP. He also led the design of the shared technologies in Office 95 and Office 97

Will tying applications to SharePoint be a prime focus with Office 12? When you deploy it, you develop against it. You don't just install it and use it. You've got to create a bunch of Web parts, and you're going to deploy the search service and things like that.

We've really upped the platform elements of the server functionality in Office 12. We have a foundation called Windows SharePoint Services, and that's the base [application programming interface] for doing all of the functionality. Then [there is] a set of services. Each of those services represent applications built on that API. At the same time, each of those services is itself a platform that people can write to.

Take one example: Excel Services, the ability to do business intelligence reporting from within the Office 12 system. By itself, it's merely a way of rendering spreadsheets through a browser interface, which is neat, but unless there's a developer in the picture, it won't do anything. A developer has to set up a SQL Server database that gets their sales information, build an analytical processing cube to get to that data and then construct the model that in Excel connects to that data. But once they do that, then they just push that to the SharePoint site, and it's now visible in a browser to everybody. Everybody can reuse all that information that they've done by just pushing. They're using an Excel button, or they can do pivoting and analysis and charts within the browser.

If corporate IT developers use any Office application as a front end, it seems to be Excel. Any system that involves financial information, no matter what front end they create for it, if the system is going to be successful, the front end has an "export to Excel" button.

My first job while I was in college as an intern was working in a manufacturing organization. We spent all day during the summer getting requests for the reports to be sorted a different way, organized a different way, with a different set of columns or subfolders one way. And the truth is, that hasn't really changed in terms of requests to IT. But what's changed is they don't have people like me sitting there waiting to hear that they want the data sorted a different way. They send a report out electronically. It's sitting on a Web page. And then you watch these poor end users cutting and pasting, trying to figure out how to get it. The best examples of really great line-of-business systems export the information to Excel in a way that you can just say, "Look, I'm the field manager. I know what metrics are important. I'm here trying to figure out our supply chain. And if I can't get to the data, I can't make the system work better."

What we see time and time again, no matter what business intelligence system people are using, Excel is the most popular front end. There's a lot of systems in between, and many IT people hope that that's the definitive one, that whatever Web page they can create is the one that everyone will use. But it turns out that you're paying people a lot of money to make decisions on the information in an organization, and they're going to make the decisions based on analyzing and synthesizing the data, combining data sources that the IT group didn't think about.

And so all of the tools out there today, SAP as an ERP system or Hyperion as a BI system, all export to Excel, export to Access. The most popular reporting language to output is RTF, which is a format that Word understands, because even though all that stuff gets dumped to Word, they still want to edit it and change it, and then it has to all end up in PowerPoint, because someone has got to tell the boss what's going on. **57245**

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PLM Review Needs Security Attention

Buying a product life-cycle management application is an opportunity to address IP protection issues. By Mathias Thurman

FOR THE PAST couple of weeks, I've spent most of my time in meetings to review and select a new product life-cycle management (PLM) application.

Normally, I would just forward a copy of my guide to implementing secure applications and let the project manager go to town. But I have been charged with protecting the company's intellectual property, and this PLM deployment is critical to that strategic objective. Therefore, I wanted to be actively involved in assessing the security controls.

SECURITY MANAGER'S JOURNAL

For those of you security folks who haven't had the pleasure of working at a manufacturing company, PLM is an application that's used to document and support the complete life cycle of a product, from planning through product maintenance. Most important, PLM software will help us manage the bills of materials for our products.

I like to think of the bills of materials as the ingredients of our products, and the computer-aided design (CAD) diagrams, along with supporting documentation, as the recipes for putting those products together. Our shopping list, explaining where we get our ingredients, is the enterprise resource planning element, which maps parts and suppliers. Some of the parts are common ones that we get from outside suppliers, while others are built in-house.

The hardware that we make from these ingredients sells for upward of a million dollars. As you can imagine, if someone were to get a hold of the ingredients, recipe and sourcing information and then sell the information or use it to build a competing product, we would be out a considerable amount of money.

As I already said, one of my objectives as security manager at this manufacturing company is to put together a program for protecting our intellectual property. An element of this program is to ensure that the enterprise applications that house our intellectual property are properly written.

In the case of the new PLM application, the goal is simple: We need to restrict users so that each one can access only the information that he needs to do his job, with that access defined by the role the user plays in the company. As many of you know, this is also called the "rule of least privilege."

As we set out to apply the rule of least privilege to the new PLM application, we have two considerations. While it's important to restrict access so that a user has access only to the parts, documents and diagrams he needs to do his job, that same user shouldn't be restricted in his quest for preexisting information.

> "I like to think of the bills of materials as the ingredients of our products."

An overly restrictive approach will stifle creativity simply because users will be in the dark about existing informatioo that could be used in the development process.

For example, a CAD diagram is a series of overlays. Some overlays represent common objects that are reused for many of our company's products.

If I restrict access to a commoo object to the point that an engineer doesn't know it exists, he may spend time developing it — reinventing the wheel. It's going to take many months to iroo out the logic that will be used to define the use of shared or common objects.

Big Challenges Ahead

Today, our company's archaic PLM application is wide open. Any user who has access can view any bill of materials for any product in the company. This is bad. And with the increase in offshore development, the chance that our intellectual property will be stolen is much greater. A coosiderable amount of work will be needed to figure out which information is common to which product and to properly define which employees need access to which products.

At the same time, I'm also hoping to leverage our existing Microsoft Active Directory infrastructure and our single sign-on application to assign access based on attributes that delineate what a user does for the company. It's not quite identity management, but it'll have to do.

In addition to the logic that will describe access privileges, there are, of course, other application security features that I have to ensure that the PLM product provides.

For example, we will want audit logs that provide sufficient granularity so that I can run a report on any user and discover what object he checked in or out and what activity be accomplished. We should be able to log and audit any activity within the application, and the logs should be able to be exported to a variety of third-party applications for reporting purposes. I like the ability to export data to XML, so that the data can then be easily incorporated into a Web page.

Administrative access also needs to be reviewed. Besides wanting sufficient levels of administrative access, I'd like to be able to incorporate a stronger form of authentication, such as the two-factor authentication I've written about before. (Two-factor authentication requires something you have, like a token, plus something you know, like a personal ideotification number.)

I also want to ensure that the vendor has written its application securely. Many PLM applications are Web-based, which of course could open the door to several vulnerabilities if the developer hasn't written the application with security in mind. I'm mainly referring to vulnerabilities such as cross-site scripting, SQL injection and cookie tampering.

When I asked one vendor's representative if he had any third-party assessments or other data to support the company's assertion that its application is secure, he tried to reassure me by saying that the application is being used at a U.S. defense contractor. I got a chuckle out of that one. So, for now, I'll continue interrogating the vendors and hope that one will rise above the rest.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum: QuickLink a1500

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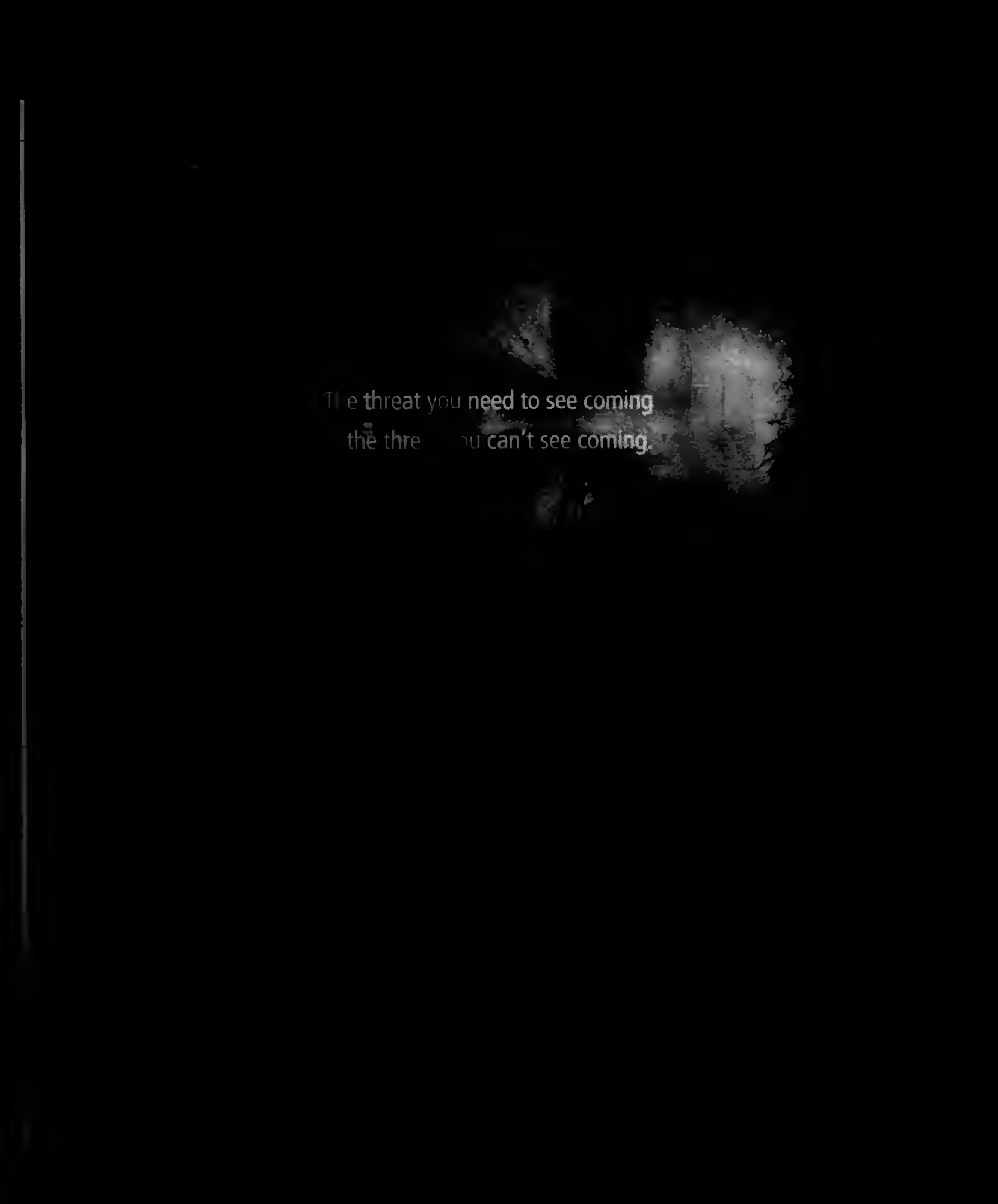
SECURITY LOG

EXTREME EXPLOITS

Security Bookshelf

Worm Creators Sentenced to Jail

U.S. Spawns a List


The threat you need to see coming
the threat you can't see coming.

Geek's

A STROLL THROUGH THE TECHNOLOGY LANDSCAPE

This Is Only A Cybertest

Japan will conduct nationwide exercises next year in order to prepare effectively for cyberattacks on computer networks.

Mock cyberterrorists will simulate attacks on computer networks of businesses and government organizations to discover vulnerabilities, according to the *Yomiuri Shimbun* newspaper and United Press International.

Participating in the exercises will be financial institutions, communications companies and Internet service providers as well as the central and local governments.

Participants in the exercises will set up dummy Internet servers with the same content as real ones.

Following the simulated attacks, participants will measure computer security by gauging the time and work necessary for them to normalize their networks.

Tokyo is readying for cyberattack

An increasing number of companies and government offices in Japan have been the target of cyberattacks. In one recent case, Kakaku.com, Japan's largest Web site specializing in product comparison information for consumer goods, had to be shut down temporarily after its network was the target of an attack. **57275**

GROVES OF ACADEME

Help for FEMA

A research team led by a University of Arizona professor has found a way to improve maps of the western U.S. used by the Federal Emergency Management Agency to determine the amount of land area within 100-year flood plains. Initial results indicate that FEMA's current maps significantly overestimate the size of flood plains.

The three-pronged approach combines a numerical computer model with data from satellite-image analysis and observations from the field.

In addition to providing better hazard information to the public, revising the flood-plain maps could have major economic effects on the rapidly growing Southwest. Often, homeowners in areas deemed to be in a flood plain must buy flood insurance in addition to regular homeowner's insurance.

To create a computer model to predict flood intensity, Jon D. Pelletier, an associate professor of geosciences at the University of Arizona in Tucson, used very detailed maps of alluvial fans, data from stream gauges and a mathematical analysis that predicted how the water flowed through the numerous small channels on a given alluvial fan during a given storm.

For maps, Pelletier used digital elevation models, which are computer-generated maps made from low-altitude aerial photographs that can show changes in elevation of as little a four inches. The combined method applies to the foothills of western mountain ranges such as the Santa Catalinas and the Tortolitas outside Tucson. Many western cities, including Phoenix, Las Vegas and Denver, have similar foothills.

"We have three methods that give darn near the same result, and it's a way smaller flood plain than the model FEMA has generally used," Pelletier says.

Pelletier and other researchers, including Larry Mayer, a University of Arizona adjunct professor of geosciences, and Philip A. Pearthree, a research geologist at the Arizona Geological Survey in Tucson, published their findings in the current issue of *GSA Bulletin*, a publication of the Geological Society of America.

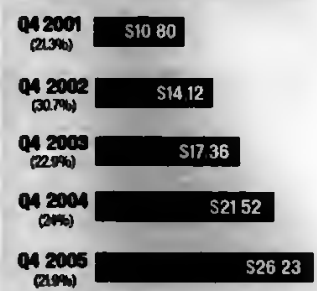
This computer-generated model shows how 1997 Tropical Storm Nora affected Tiger Wash in Arizona's Harquahala Mountains. The red shows where the water was deepest, and the brown indicates upland areas that didn't flood.

Page compiled by Tommy Peterson.

Beyond the Vacuum Tube

U.S. Q4 Online Retail Sales,* 2001-2005

(In billions and as a % increase vs. prior year)



*Not adjusted for inflation

Sources: 2001-2004 data: U.S. Department of Commerce, August 2005; 2005 data: eMarketer Inc. estimate, September 2005

Geek's Garden

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DIFFERENCE ENGINES

Beyond the Vacuum Tube

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BRIEFS

Seagate Releases New Hard Drives

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AirWave Upgrades Wireless Software

■ AirWave Wireless Inc. introduced Wireless Management Platform 4.0, which it said offers Web-based graphical views of Wi-Fi networks that help desk staffers can use. Other features include wired-network-based rogue access-point detection. An introductory system that manages 25 access points costs $3,500.

NetApp, Kazeon Team for Search

■ Network Appliance Inc. last week announced an agreement with Kazeon Systems Inc. that calls for the two companies to integrate the data classification and search capabilities of Kazeon's Information Server with NetApp storage systems. The Kazeon Information Server IS1200, also announced last week, integrates with NetApp data protection and regulatory compliance software.

Imation Announces Integration Product

■ Imation Corp. has announced new technology called Ulysses that integrates a hard disk drive into a standard tape cartridge for deployment in any tape library. The hardware that fits into the tape drive bay and reads the disk is expected sell for between $5,000 and $7,000 retail, and the cost of a Ulysses cartridge will be comparable to that of an LTO cartridge.

DOUGLAS SCHWEITZER

Addressing the Human Security Vulnerability

SO, YOU HAVE THE BEST FIREWALL, intrusion-detection and antivirus systems technology has to offer. Yet, despite your Fort Knox approach, you're still hit with security breaches and the occasional malware du jour. One reason for this may be the lack of motivation by your workers. Unlike owners, they don't have a direct interest in the success of the company. Or do they? How far are they willing to go to ensure corporate success?

Usually, not very. In fact, in most cases, they don't put much additional effort into executing their duties — just enough to get the work done and retain their jobs. According to Ken Shaurette, information security solutions manager at MPC Technology Solutions, however, "a too-often overlooked way to improve these attitudes is to include information security in the job descriptions of employees." When your organization makes security awareness and policy compliance mandatory, the apathetic trend can be reversed.

When management requires security policy compliance to be a key part of an employee's job, interest is generated. An added benefit is that security becomes part of the corporate culture. With performance reviews (hence, possible raises) looming periodically, employees are more apt to fit compliance into their daily routine. Knowing that they're being graded encourages employees to comply with policies.

Shaurette encourages employers to include a wider cross section of employees in the interview portion of security assessment and in compliance reviews. These additional personnel will automatically gain a better awareness of security issues simply as a result of their exposure to security professionals. Not only will they add their input as to what data should be gathered for analysis, but they'll also come away with a better appreciation of the need for assessments. When they're a part of the compliance review, employees "will get a sense of ownership of the final results from the assessment," says Shaurette.

Inclusion alone won't always solve employee-apathy problems, however. Here are some other ways to reduce security risks created by employees who just don't care.

Monitoring. One solution that maybe isn't palatable but certainly is effective is employee usage monitoring. Tracking employee PC use can result in negative repercussions for the company, but it's one sure way to establish control over the network. Monitoring needs to be carried out in such a way that employee dignity is protected — a daunting task because few tools are available to automate the process. "Doing the monitoring can become a very heavy administrative burden or require many application modifications that are often not even possible because applications are vendor-maintained," says Shaurette.

Restricted access. Limiting or retracting network access can also reduce (if not prevent) the impact of employee apathy, according to Simon Heron, managing director of Network Box. With the IT manager in control, "signatures for antivirus and antispam can be pushed to the gateway and to the desktop from central company servers," says Heron. The manager is in control of downloading the signatures, and the manufacturer can push software updates onto the gateway to ensure that it's up to date. "This means that the apathetic employee can't get in the way of updating their systems; it takes them out of the equation," says Heron.

Unified threat management. Heron points out, however, that limiting access may not prevent infections altogether. Therefore, many organizations are turning to unified threat management systems. Deploying this type of technology restricts employee access to the Internet for browsing and using e-mail and instant messaging applications.

Endpoint security. It's important to realize that careless use of endpoint devices like laptops and handhelds is one of the biggest causes of compromised security. Recent surveys have found that — because of outright ignorance of or, even worse, apathy toward security — roughly a third of users don't even bother using password protection on their devices. This, of course, leaves data vulnerable to hackers and other opportunists, especially if the devices are lost or stolen. Moreover, remote users and mobile workers have been known to pick up viruses and worms on the road, then infect the corporate network when they return to the office.

It's imperative that endpoint devices be checked for compliance with your network security policy. Mandate that all endpoint devices have the latest patches and antivirus software. In addition, your policy should restrict the use of file-sharing and peer-to-peer applications and require certain operating system, browser and application security settings. **57313**

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R&D REVIVAL

IT research and development is making a comeback, but the rules have changed.

BY DAVID GEER

MICHELLE ANTONIAK

DESPITE the dot-com fallout that pulled the plug on IT at the end of the last millennium, IT R&D is staging a revival. But today, it has a new mission, a new culture, broader sponsorship, a different profile and a new emphasis on partnerships.

Late in the 1990s, the typical IT R&D mission was to move ahead to the next technology no matter what. Research often went almost directly from experimentation into production without proper testing, without any justification of the value of the technology to business, without plans for properly engineering it into the environment and without a design for deployment, says Vijay Sankaran, IT manager for enterprise technology at Ford Motor Co. in Dearborn, Mich.

"There was no formalized, architected approach to introducing new technologies," says Sankaran. This led to unfocused technologies such as multiple company Web sites that weren't even linked together, he says.

As a result, many dot-com IT R&D initiatives ultimately failed. "Projects were late; they didn't do as expected, and even if they did work as expected, they didn't deliver the kind of revenue gains people expected," says Martin Reynolds, an analyst at Gartner Inc.

"In the dot-com days, R&D efforts were consistent with that period's land-grab mentality," says John Baschab, co-author of *The Executive's Guide to Information Technology* (John Wiley & Sons, 2003). Companies were focused on increasing their Web real estate by using technologies like scalable Web architectures to grow their Web presence, visual design techniques to draw people in and back-office systems that could support millions of customers, he says. But for the most part, these plans did not materialize. "IT R&D today focuses more on practical, pragmatic issues," Baschab says.

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D REVIVAL

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While today's IT R&D still has to innovate fast, it also has to innovate in

the right way, says Sankaran. The focus has shifted from research for research's sake to meeting business needs.

For example, in the late 1980s and into the '90s, as much as 50% of the IT R&D budget at The Procter & Gamble Co. went to pure emerging-technology research. "Now, about 80% of it is spent on doing engineering against business problems," says Robert Scott, vice president of IT and innovation at the Cincinnati-based consumer goods maker.

Innovation has always played a critical role at P&G, Scott says. "But as we looked toward the future, we knew that we needed IT R&D to play an even larger role to maintain our edge in an increasingly competitive marketplace. For that to happen, we needed to change how IT worked and how it integrated with the rest of the company."

Other changes at the company's R&D group reflect the same new mind-set. "We call our IT R&D group 'E&D' for engineering and development," explains Scott. The name implies that the group's goal is to engineer applications for business rather than researeb emerging technologies, he says.

Despite the changes, IT R&D is once again very alive and robust, according to Scott. "We have some fundamental areas of breakthrough that we consider strategically important to the company," he says. "Our researeh organization has been realigned to go right up against those areas and deliver breakthrough ideas to push the envelope."

Cultural Changes

New R&D group cultures also demonstrate much tighter ties with business. For example, DaimlerChrysler AG in Auburn Hills, Mich., for example, has a Global Technology Counell with members from business, IT and IT R&D. It meets monthly to discuss business unit expectations and align budgets, says Seshu Bhagavathula, director of technology strategy.

R&D today is less isolated from the rest of the business than it was before. "Everybody from the chairman on down is sponsoring advancements in technology," says Jeffrey Cohen, CIO at DestiNY USA, a New York-based shopping mall developer. "It's actually our chairman who has driven us to having an open-source platform across all R&D," he adds. "From the top down, everybody's interested in technology [and] how it will impact what we do as a company."

Broader sponsorship means more brains are working together, storming up innovative approaches to R&D According to Sankaran, one of those approaches is to look for recombinatton opportunities. "How do you take technologies already on the shelf and recombine them in such a way that they make a meaningful business impact, rather than looking at what may be five to 10 years out?" Sankaran says.

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R&D groups are also forging closer ties with suppliers. At DaimlerChrysler, for example, IT R&D not only measures the performance of strategic suppliers, but it also sometimes affects it.

DaimlerChrysler product managers participate in customer focus groups in the research labs of the automaker's top suppliers, suggesting features that they would like to see in upcoming versions of products. The product managers are also permanent members of the supplier counells, which schedule meetings a minimum of four times a year. So the product managers know what's coming next from the vendors much sooner than they once did, according to Bhagavathula.

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In cases where P&G has outsourced IT operations, it leverages relationships with vendors such as Hewlett-Packard Co. and IBM to gain access to their innovation labs. "We collaborate aggressively to create innovations. That's our standard operating procedure," says Scott.

These partnerships aren't limited to suppliers, though. Ford collaborates with various consortia, as well as open-sourcee development labs and the Internet2 initiative, according to Sankaran. Internet2 is the next-generation Internet, which the government and universities are developing today in much the same way tbey developed the current Internet.

"We're looking for ways to take offshoots of some of that research and apply it to near-term implementations rather than esoteric research," says Sankaran. Ford is focusing on the personal collaburation space and how voice, video, podcasting and videocasting are going to affect the way it does business, Sankaran says.

P&G, Ford and DaimlerChrysler are also all looking at how to use radio frequency identification technology to make their supply chains more efficient. "Velocity through the supply chain is critically important," says Scott. "We have done a lot of collaborative work to push that envelope because we believe we can significantly reduce costs for our retail partners and us."

Risks and Returns

Because of R&D's mission and budget realignments, many group find that there are more hard ROI expectations now than there were in the past. "IT R&D was previously about technology for its own sake. Today, it is mucb more linked to ROI and key business value creation," says Sankaran. "We went through this phase where we undertook too much change within our organization. Now we're just trying to figure out what's robust, what's scalable and how we peel back some of the messes that we made."

But expectations of big returns can work in R&D's favor when it comes to budgeting. At P&G, the widespread belief that IT R&D is strategically focused on the right things has helped shift the focus from a concern for controlling costs to a recognition of the need to invest in the business. As a result, Scott says, the company is willing to take more risks in order to "hit some big home runs."

With all of the changes in IT R&D, there is one striking similarity to the research organizations of the '90s: The goal is still innovation, and people still believe that technology is a critical differentiator.

"Companies that can embrace technology and build it into their product in a more meaningful way more quickly are the ones that are going to be more adaptable to change," says Sankaran.

Today's IT R&D is less about pie in the sky and more about innovative applications that serve the business now. It's run like a business and for the business by business-minded IT professionals.

"Innovation has become a fixed scheme, not only within our company but also in many companies in the U.S.," says Sankaran. "That's one of the key factors in the reinvigoration of an IT R&D organization." 57190

Geer is a freelance writer in Ashtabula, Ohio. You can contact him at geercom@alltel.net.

People: Roles and Expectations

WHILE R&D STAFF TITLES are much the same as ever, the profiles of the individuals are fundamentally different, according to Robert Scott, vice president of IT and innovation at Procter & Gamble. "I've been with P&G for 30 years, and I can tell you there was a time when our IT R&D group was made up of the technical geeks who nobody could understand and frankly didn't want to be around much," he says. "You talk with our R&D people today, and I bet you could have a conversation with them for an hour and not know they're part of our IT R&D group."

Today's IT R&D professionals are a reflection of evolved expectations, says Vijay Sankaran, IT manager for enterprise technology at Ford. "For example, my people have to submit formal research proposals on the technologies they are evaluating. They have to tell the story of how the technology fits in," he says.

According to Scott, the key difference in today's IT R&D teams is that they're considered business partners who keenly understand how their expertise serves business needs.

P&G's IT R&D leaders made a deliberate effort over the past four years to better integrate their teams with the business by setting goals that aligned with company goals, working more directly with the business units and refocusing employees, according to Scott. "Ultimately," he says, "our R&D folks start with the end in mind."

– *David Geer*

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People,

IBM.
_THE INVASION
_DAY 3: The servers have taken over. We bought so many affordable ones we can't afford the people to manage them. How far does this sprawl spread? Have they taken over the city? The planet? Ma, have they gotten to you, too? (Must type very, very quietly. They're L-I-S-T-E-N-I-N-G.)

IT AND THE BOARD

How directors can get a grip on IT

Boards of directors are growing increasingly nervous about their companies' dependence on IT, and with good reason. IT accounts for more than 50% of capital spending in some companies. But there are no standards for IT governance as there are for areas such as accounting and compensation (see "Business in the Driver's Seat," page 31). In a comprehensive article in this month's Harvard Business Review, *Richard Nolan and* **F. Warren McFarlan** *lay out an IT governance plan. McFarlan, professor emeritus at Harvard Business School, told Kathleen Melymuka how boards can get a grip on IT.*

So the first step toward IT governance is to determine whether the company's reliance on IT is defensive or offensive. Can you explain? In offensive mode, you're doing things that will give you a significant increase in market share, measurable improvement in service and significant reductions in cost to allow you to better position yourself vis-à-vis the competition. There's a certain amount of risk: Pioneers get arrows in their backs, then the settlers come in behind.

In defensive mode, you see a trend in the industry, and you move quickly to close the gap.

Tell me about the strategic impact grid. This formulation has been the framework for all my corporate information systems strategies. At the core is a contingency approach to IT management: There is no right way to plan, organize, take risks; it depends on who you are.

There are two critical dimensions. On the vertical: How important is it that your operations run in a bullet-proof, reliable, secure, 24/7 [environment with a] subsecond response time? The higher you go, the more you need to spend oo backup and security. The horizontal dimension is the strategic impact of what you have under development. Is it really important in transforming the organization offensively? Or is it nice, useful, solid but not really transforming the organization?

The grid has four quadrants. Tell me about those. The support quadrant is where what's under development is not a huge deal, and if your networks go down, it's not the end of the world. About 5% to 8% of the IT world is in that quadrant.

The factory quadrant is almost 40%. There it's a buge deal if things go down, but if you're late on ERP or other innovations, that's irritating but not the end of the world.

The strategic quadrant is where what's under development is unbelievably important and there is huge reliance on systems day in and day out.

In the turnaround quadrant, what's under development is important, but if your networks go down, it's not the end of the world. Research firms are in this [area]. They may have an eight- or nine-year lead time, so they can take more roughness in the back network than the bank that's running ATMs.

How involved does the board need to be in the various quadrants? In the strategic mode, it needs to be really involved. Basically, it's a major investment of corporate resources. Over half of capital investment tends to be in this area. There are new initiatives, and the board needs to have a view as to how the company positions itself, where it lies within the industry and whether the back office is being managed in the way it should be for the organization.

This is particularly important now because of Sarbanes-Oxley. The typical audit committee is taking three times longer than it took a few years ago. Since we doo't have infinite time, when boards make a shift like that, what gets squeezed is strategy.

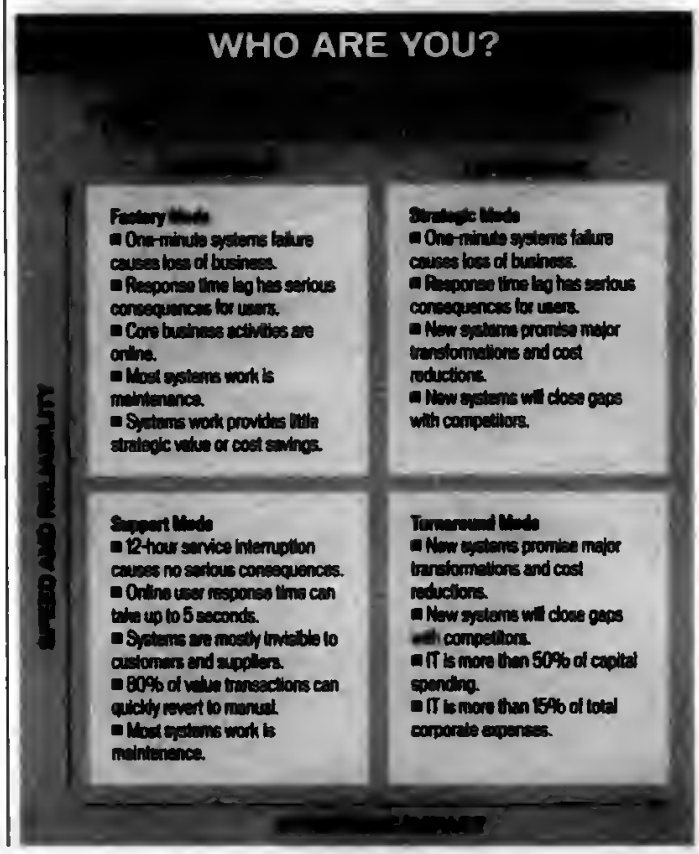
How involved should the board be when the company isn't in strategic mode? We ask for different levels. At the factory quadrant, for example, it's very important to have a member of the board who is actually versed in IT — an expert to say, "Are the best-practice things being done here?" But in the spirit of the contingency focus, the big, broad focus on IT needs to be in those organizations in the strategic quadrant.

How do you set up the board's IT governance committee, and who's on it? The IT governance committee includes at least one person deeply knowledgeable in the technology, and the other people have a feel for how the company is competing and are able to ask the necessary questions.

How likely is it that a given board will have that level of IT expertise? You go out and rifle-shoot. Procter & Gamble, for example, has a technology innovation committee, and Scott Cook, the founder of Intuit, is there to ask the challenging questions. The boards of companies that are in the strategic quadrant are doing this.

Your article gives a very comprehensive set of instructions. What's the most important single thing for getting it right? The most impottant thing is to understand that we are living in a fast-changing, information-intensive economy. Many of the board members are not really focused oo this as something that's turning the organization inside-out. This is a wake-up call to make sure that your organization isn't asleep at the switch in the Informatioo Age. We've got examples out of the past: In 1984, there wasn't a single IBM board member who had a PC. Today, you can't be running an organization without understanding IT. **57226**

This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.


WHO ARE YOU?
SPEED AND RELIABILITY
Factory Mode
■ One-minute systems failure causes loss of business.
■ Response time lag has serious consequences for users.
■ Core business activities are online.
■ Most systems work is maintenance.
■ Systems work provides little strategic value or cost savings.
Strategic Mode
■ One-minute systems failure causes loss of business.
■ Response time lag has serious consequences for users.
■ New systems promise major transformations and cost reductions.
■ New systems will close gaps with competitors.
Support Mode
■ 12-hour service interruption causes no serious consequences.
■ Online user response time can take up to 5 seconds.
■ Systems are mostly invisible to customers and suppliers.
■ 80% of value transactions can quickly revert to manual.
■ Most systems work is maintenance.
Turnaround Mode
■ New systems promise major transformations and cost reductions.
■ New systems will close gaps with competitors.
■ IT is more than 50% of capital spending.
■ IT is more than 15% of total corporate expenses.

IBM.
_DAY 30: It's gatten worse. I'm trapped in a maze of our own creation. Oh, the irany. I need an answer. (P.S. I'm frightened.)
_DAY 31: I need IBM Systems with virtualization technology. Helps you manage your servers and storage, each from a single view, so you can deploy resources on the fly. Lets you scale up and out quickly. I will achieve control. I will be a big hero. They will call me Ned. Ned, Champion of Simplicity.

EXEC TRACK

Shearan Picked for IT Helm at Mellon

Mellon Financial Corp. in Pittsburgh announced that KEVIN L. SHEARAN has been promoted to CIO. Shearan joined Mellon in 1997 as head of a new software engineering group and was promoted to executive vice president in January 2004. Shearan previously served as director of technology at the Worldwide Securities Services division of Citicorp.

McGarry to Head IT At St. Jude Medical

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BARBARA GOMOLSKI

The Shoemaker's Children and IT

RUN IT LIKE A BUSINESS. I'm sure you've heard that edict a lot lately from vendors, consultants and fellow IT managers. It seems like a no-brainer. Of course it makes sense to run the IT function like a business. Many large organizations spend $50 million to $100 million on IT annually — that's a decent-size business. Yet, there's ample evidence that we IT types have been so preoccupied with technical issues that we have neglected the business issues of IT. Not surprising, really. If we were that interested in business, we would have become CPAs or CEOs, right?

Still, one of the reasons IT organizations fail to establish credibility is that they lack good information about the business of IT — the kind of information IT systems help to provide for other business units. Without solid and accurate sources of data about IT systems, people and processes, it's impossible for a CIO to have a meaningful conversation about the business of IT.

Granted, automation is no guarantee of process improvement. We need only look at ERP to prove that. Still, it seems inevitable that IT organizations are destined to take a healthy dose of their own medicine.

The Wrong Information

Most CIOs have ample information about the operational systems of their IT departments — for example, the number of help desk calls answered or the number of gigabytes of storage added last month. The problem is that most of these statistics are way below the radar of C-level executives.

At the same time, the kind of information about IT that top executives *are* seeking is simply not available. For example, a chief financial officer may wish to determine how much the company spends with a particular IT vendor. Or the risk officer may need a complete Sarbanes-Oxley status report on all IT systems. This kind of information is often essential for important business decisions. Increasingly, CIOs who can't provide this level of information to other parts of the organization will be seen as roadblocks to business success.

All of this leads me to a question: Can we ever manage IT as a business if we refuse to automate and optimize IT management processes with software tools?

I don't believe we can. In fact, I would argue that we will never "arrive" as IT managers until we have the same opportunities for automation and data management as the other functional heads within the business have had. For example, the accountants would be lost without their financial tools and reports; the same goes for human resources and even sales.

Certainly, IT has some software tools at its disposal today. Most large organizations have made significant investments in tools for systems and network management, asset management and configuration management, just to name a few. But the bulk of these tools provide technical information that's more interesting to the people within IT than to executives of the corporation. We've really only scratched the surface in terms of how we can use technology to make our own jobs as IT managers easier.

Evolving Tools

The IT management tool landscape is only beginning to take shape, and there are lots of companies approaching from various starting points. Ultimately, this niche will include everything from start-ups to industry stalwarts such as Microsoft, which has begun to promote its Project Server and .Net platform as a mechanism for tying together a spectrum of tools for application portfolio management.

Right now, many vendors are trying to evolve their current tools with new capabilities aimed at helping IT managers take a more business-oriented approach. For instance, companies like Adaptive Networks, Evident Software, Klir Technologies and Relicore offer tools to track IT asset usage and costs. In some cases, these tools can also be used to track the cost and utilization of applications.

Just about every vendor that offers project and portfolio management software is aiming at the IT management tool space, hoping to extend the capabilities of existing packages to encompass additional technology management processes.

Other vendors are building suites from the ground up to help IT managers run their businesses. ITM Software and Enamics both have modular suites that are aimed at processes such as IT financial management and governance.

Although IT management software is a nascent market, it's one that IT leaders should watch carefully. The offerings in this market will present them with substantial challenges and opportunities. **57036**

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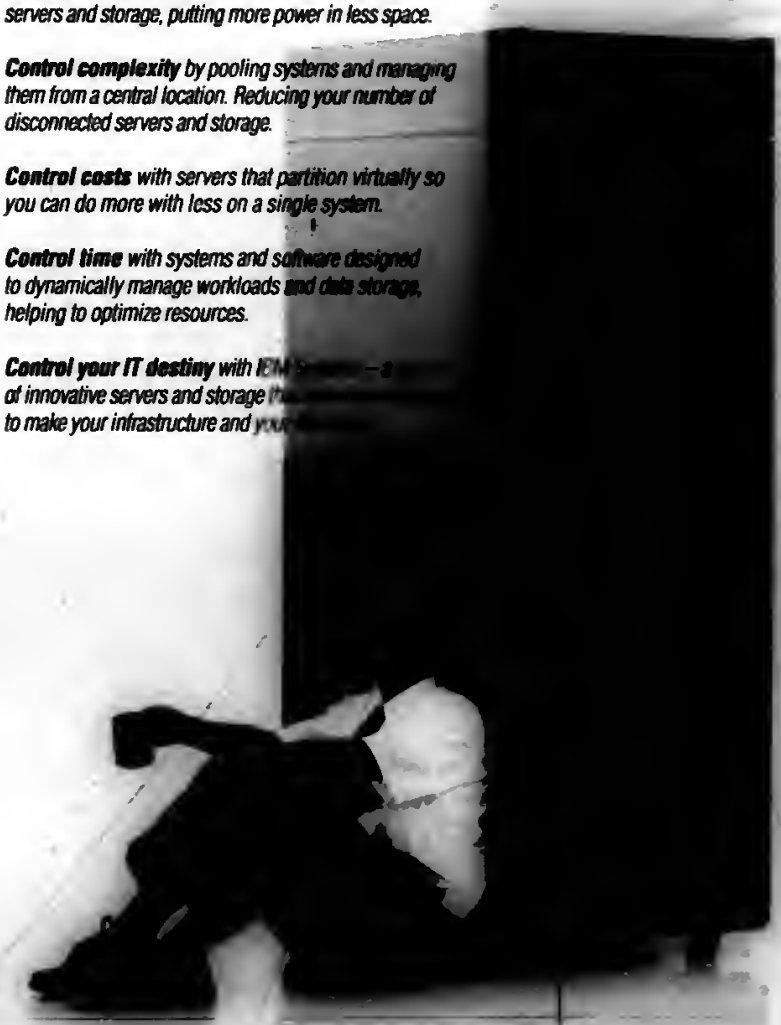

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KNOWLEDGE CENTER STORAGE

10.17.05

Virtual Unity
Alberto Cruz Natal, technical manager at Hunterdon Medical Center, moved the community hospital to a centralized storage architecture via a SAN and a high-end Shark array. This storage virtualization setup helps smooth out capacity crunches. PAGE 52

Watchful Eye
Storage resource management tools offer a single window into the storage network, allowing users to measure the performance of any piece of equipment. PAGE 58

OPINION

Storing Stuff
Forget trying to get control over all the mobile data storage devices inside your company. What you need to do is get control of the data, says columnist Mark Hall. PAGE 64

EDITOR'S NOTE

WHEN YOU HEAR IT managers complain about storage problems — whether they involve maintenance, adding disk drives, provisioning, load balancing or backup — their beefs all fall into one broad category: storage complexity. "I define storage complexity as the chaos of owning and operating thousands of storage elements," says Michael Peterson, president and senior analyst at Strategic Research Corp. in Santa Barbara, Calif.

So what can we do about that chaos? Various technologies have emerged that are supposed to help, such as storage resource management (SRM), storage virtualization, object-based storage and data classification tools. In an unscientific audience poll at April's Storage Networking World, the vast majority of IT managers in attendance said they have some sort of simplification strategy, including SRM, automated processes and virtualization. Only 15% of the attendees said storage complexity isn't a problem in their organizations.

Our special report explains how several of these technologies can help you battle the complexity monster. But, as usual, getting to that nirvana of simplicity isn't going to be easy. One technology is mature but lacks interoperability. Another one is immature and lacks standards. A third one is costly and could cause performance bottlenecks.

I don't mean to be a pessimist, but traveling the road to Simplification will take a very long time if we continue to take two steps forward and one step back.

Mitch Betts is executive editor at Computerworld. *Contact him at mitch_betts@computerworld.com.*

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Battling Complexity

SPECIAL REPORT

New technologies can help you declutter, untangle and manage your storage elements.

Virtual Unity

Storage virtualization promises to smooth out capacity crunches.

By Mary Brandel

THREE YEARS AGO, Hunterdon Medical Center in Flemington, N.J., could claim one server for every two beds in its 176-bed facility. But for Alberto Cruz Natal, technical manager at the community hospital, that was nothing to be proud of.

"Our data center was overflowing with servers," says Cruz Natal. Worse, each of those servers had its own direct-attached SCSI storage device. When a server ran out of disk space, IT either had to buy another server or manually extend the server's storage partitions, a time-consuming and disruptive job. Meanwhile, some servers had excess capacity.

Reconfiguring storage devices wasn't exactly a chore that the IT group could afford to spend so much time on. The hospital was preparing to go live with a new clinical charting system, which precipitated a need to migrate the QuadraMed Corp. Affinity hospital information system (HIS) from its current platform — a 5-year-old Unix box from the former Digital Equipment Corp. — to a more powerful piece of hardware. The hospital had also just built a disaster recovery hot site 15 miles away, but it hadn't yet formalized a strategy to vault its data to that off-site location.

Ineffective capacity utilization, growing data volumes, labor-intensive storage management, a need for better disaster recovery — this classic scenario is driving many users today to explore the world of storage virtualization. According to John Webster, founder of Data Mobility Group LLC in Nashua, N.H., data is growing at 60% to 80% or more per year for many companies, and storage administrators are spending 20% to 30% of their time on volume management tasks. It's clear that businesses need ways to simplify the job of managing all this data, and storage virtualization claims to help.

It does this by making physically separate and even heterogeneous storage arrays appear to be a single logical pool of storage resources, manageable from a central console. The goal is for data to freely flow among the various tiers and types of storage, depending on business needs, without disrupting the operating environment.

"The single most important attribute of any storage virtualization solution is the ability to mask complexity and thereby make manageable that which is increasingly unmanageable," Webster says.

Simplify, Please

There's nothing simple, however, about understanding all the different forms of virtualization on the market today and deciding which one is right for you. In Hunterdon Medical Center's case, the decision wasn't too difficult — its value-added reseller proposed that it move to a centralized storage architecture via a storage-area network (SAN). Because the reseller recommended moving the HIS system to an IBM RS/6000 (one at the hospital and one in the disaster recovery site), it also made sense to use IBM storage in the form of a high-end Shark array (one at the hospital and one off-site). IBM and DataCore Software Corp. in Fort Lauderdale, Fla., had an agreement to use SANsymphony software to virtualize the Shark array, so that was added to the environment as well.

When this project was under way in 2003, storage heavy hitters IBM, Hitachi Data Systems Corp. and EMC Corp. weren't touting storage virtualization products. But now that they are — or, in EMC's case, are close to it — there are so many approaches to virtualization that it's difficult to decide what's best for your environment (see chart, page 54).

For instance, some vendors place virtualization capabilities on the storage-array controller itself (often referred to as array-based virtualization), meaning that you purchase both the storage and the virtualization capability together. Others place it on a server (often called appliance-based virtualization) that sits between the application server and the storage. Still others choose to put it on an intelligent switch (called network-based virtualization) that either takes an "in-band" approach, where the virtualization commands travel the same path as the data between the application server and the storage array, or an "out-of-band" approach, where the commands and the data take separate paths.

Even individual vendors offer a variety of approaches. For example, IBM's SAN Volume Controller (SVC) is an appliance-based system that's also available in a switch-based configuration. Meanwhile, its DS8000 is array-based, along the lines of Hitachi's Universal Storage Platform. EMC's forthcoming Invista is an out-of-band network-based

Continued on page 54

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Continued from page 52

product, which is the newest — and some say most promising — type of storage virtualization.

Although IBM's SVC currently leads the market with 1,200 installations, "the market is still very much in a state of flux," Webster says

Up in the Air

No wonder most customers are still in evaluation mode with the technology. According to Tony Asaro, senior analyst at Enterprise Strategies Group Inc. in Milford, Mass., Hunterdon Medical Center is one of only 3,000 companies globally that have implemented storage virtualization today

But Cruz Natal is pretty happy that he did. At first, he says, DataCore was "just another part of the system." Very quickly, however, it opened up a whole new world of possibilities. The most important, he says, is the ability to put any type of storage behind the DataCore virtualizer, including lower-end systems based on JBOD, FAStT and Serial ATA. This eliminated the need to keep non-mission-critical or less-accessed data on the high-end Shark system or manually move it to less expensive disk systems. "We now have the flexibility to buy different types of storage for different types of systems and manage it centrally through DataCore," he says.

Second, administration and maintenance are much less costly, Cruz Natal says. With a few clicks, administrators can create storage partitions up to 2TB for application servers. SANsymphony monitors the server's actual storage usage, enabling administrators to assign more storage to that disk pool on an as-needed basis. "We don't have to extend the partition or create a new one," he says. "We can just buy additional disk at a later point in time and assign it to the same pool."

And with a third DataCore server and a redundant RS/6000 server off-site, the hospital can also mirror data to the disaster recovery site, limiting downtime to a maximum of two hours.

Some observers say technologies such as DataCore's cause performance bottlenecks because of their location on the network. Bernard Shen, an independent contractor who specializes in storage architectures and server consolidation, argues that, given the cost of virtualization products and their performance hit, it can be just as effective in midsize environments to add more disk to the array rather than virtualize disparate arrays.

"In environments with medium to lower high-end capacities, I have not seen a true need to put a virtualization layer in place yet because of the cost and performance issues associated with it," Shen says. Costs include the price of the device, training people to use it and licensing fees. "If you have two SANs with 1TB each, you need to pay a license fee for 2TB," he says.

Shen also argues that adding a virtualization device adds a layer of complexity. "Vendors sell it as a single point of management, but that doesn't mean it's transparent to managers," he says. For instance, in environments where even the logical partitions are managed by the volume controller, you may not always know which disks are working with which servers. "You'd know a RAID set has failed, but you don't know which application is using that RAID without looking into it," Shen says. While Shen anticipates improvements in the technology nine to 12 months out, right now, he says, "I'm not sure that storage virtualization is necessarily universal for everybody."

Cruz Natal says the hospital doesn't experience performance slowdowns because it doesn't have a high volume of transactional data. "Bottom line," he continues, "it doesn't lock me into what kind of storage I use, which helps us keep costs in line, and it resolves the issue of training staff to manage the system manually, which lowers maintenance costs."

At the same time, Cruz Natal says he'd like management tools that give him dashboardlike visibility into things such as the status of partitioning volumes or the disk pool when slowdowns occur. "Better integration of all the tools becomes more critical because we have so many systems," he says.

Getting training staff to deal with this new architecture is crucial, he says. You need at least three people: one who's familiar with how the application servers interact with the SAN, one who understands the SAN fabric itself and an administrator who knows how to create new partitions, move volumes around and troubleshoot the virtualization server.

How to Choose

Array-based, network-based, appliance-based — the fact is, there's no "best" choice for virtualizing. It all depends on what you're looking for. "You have to look at what kinds of operations that the virtualization device, wherever it is, can offer you as a user and which are most important to you," Webster says.

The question is, what's your pain point? "Some people want to slow down their hardware spending, and others want to decrease their administration budget," Asaro says. Some might want to rearchitect their entire storage infrastructure, while others want to implement tiered storage in piecemeal fashion, he says.

Despite general agreement that virtualization adoption will take off in the next year and a half, everyone agrees that the vendors have to get better at integrating heterogeneous systems and simplifying deployment. Brad O'Neill, an analyst and consultant at Taneja Group Inc. in Hopkinton, Mass., compares it to the server virtualization world. "VMware has an easy-to-deploy solution with a lot of flexibility," he says. "It has to get to that level." **56891**

Brandel is a Computerworld contributing writer in Newton, Mass. Contact her at marybrandel@verizon.net.

Virtualizing Virginia

THE CITY OF RICHMOND is another satisfied virtualization user. Earlier this year, it faced problems similar to those at Hunterdon Medical Center. As its server farm population grew to 120 servers, certain disks would fill up while others had plenty of free storage. "But we couldn't share the two and migrate the tools together," says Lyle Gleason, systems architect for the city.

Servers included a mix of Intel, IBM AIX, HP-UX and Sun devices and an IBM z/OS mainframe. Storage was a mix of onboard hard disk and two Clariion systems from EMC. As a result, adding storage was also manually intensive. "The different servers had different device drivers, so when we added storage, we also had to make sure the drivers worked correctly," Gleason says.

The city brought in Hitachi, EMC and IBM, eventually selecting IBM's SAN Volume Controller because it put virtualization outside of the array. The SVC device virtualizes a mix of systems, including the EMC Clariions, an IBM ESS800 Shark and one IBM DS4300, formerly of the FAStT line of arrays. "We can now provide the proper class of storage for the proper application," Gleason says.

In addition, storage provisioning happens in minutes, according to Gleason, and servers interact with just one generic device driver. And rather than seven network engineers sharing responsibility for storage tasks, now one systems engineer handles it all, says Steve Forstner, director of IT for the city. The city is also experimenting with SVC's snapshot capabilities for backup purposes.

So far, Forstner and Gleason see no additional complexities as a result of implementing SVC. They also say SVC's system tools clearly map out which disks are mapped to which servers.

– *Mary Brandel*

Virtualization Type	Perceived Benefits	Trade-offs
Host-based	■ Relatively low cost. ■ Supports heterogeneous storage resources.	■ Operating-system-dependent. ■ Performance dependent on host processing resources.
Appliance-based (Also called fabric-based)	■ Supports heterogeneous storage resources and application servers. ■ Future versions will be based on the ANSI's Fabric Application Interface Standard (FAIS).	■ Some implementations lack scalability and reliability for critical systems. ■ FAIS still under development. ■ Potentially adds I/O latency and opportunity for security breaches. ■ Could introduce another layer of management complexity.
Array-based	■ Can be optimized to underlying disk resources.	■ Supports heterogeneous hosts but homogeneous storage resources. ■ Proprietary implementation of virtualization.
Network-based (Also called out-of-band switch-based or external full-function storage controller)	■ Supports heterogeneous storage resources and application servers. ■ Reduces complexity of switching infrastructure.	■ Potential for proprietary implementation of virtualization.
NAS gateway	■ Allows IP network to participate in storage virtualization.	■ Support for back-end storage varies and is highly vendor-dependent.

[illegible] GROUP LLC, NEWTON, MA

Continued from page 52

product, which is the newest — and some say most promising — type of storage virtualization.

Although IBM's SVC currently leads the market with 1,200 installations, "the market is still very much in a state of flux," Webster says.

Up in the Air

No wonder most customers are still in evaluation mode with the technology. According to Tony Asaro, senior analyst at Enterprise Strategies Group Inc. in Milford, Mass., Hunterdon Medical Center is one of only 3,000 companies globally that have implemented storage virtualization today.

But Cruz Natal is pretty happy that he did. At first, he says, DataCore was "just another part of the system." Very quickly, however, it opened up a whole new world of possibilities. The most important, he says, is the ability to put any type of storage behind the DataCore virtualizer, including lower-end systems based on JBOD, FAStT and Serial ATA. This eliminated the need to keep non-mission-critical or less-accessed data on the high-end Shark system or manually move it to less expensive disk systems. "We now have the flexibility to buy different types of storage for different types of systems and manage it centrally through DataCore," he says.

Second, administration and maintenance are much less costly, Cruz Natal says. With a few clicks, administrators can create storage partitions up to 2TB for application servers. SANsymphony monitors the server's actual storage usage, enabling administrators to assign more storage to that disk pool on an as-needed basis. "We don't have to extend the partition or create a new one," he says. "We can just buy additional disk at a later point in time and assign it to the same pool."

And with a third DataCore server and a redundant RS/6000 server off-site, the hospital can also mirror data to the disaster recovery site, limiting downtime to a maximum of two hours.

Some observers say technologies such as DataCore's cause performance bottlenecks because of their location on the network. Bernard Shen, an independent contractor who specializes in storage architectures and server consolidation, argues that, given the cost of virtualization products and their performance hit, it can be just as effective in midsize environments to add more disk to the array rather than virtualize disparate arrays.

"In environments with medium to lower high-end capacities, I have not seen a true need to put a virtualization layer in place yet because of the cost and performance issues associated with it," Shen says. Costs include the price of the device, training people to use it and licensing fees. "If you have two SANs with 1TB each, you need to pay a license fee for 2TB," he says.

Shen also argues that adding a virtualization device adds a layer of complexity. "Vendors sell it as a single point of management, but that doesn't mean it's transparent to managers," he says. For instance, in environments where even the logical partitions are managed by the volume controller, you may not always know which disks are working with which servers. "You'd know a RAID set has failed, but you don't know which application is using that RAID without looking into it," Shen says. While Shen anticipates improvements in the technology nine to 12 months out, right now, he says, "I'm not sure that storage virtualization is necessarily universal for everybody."

Cruz Natal says the hospital doesn't experience performance slowdowns because it doesn't have a high volume of transactional data. "Bottom line," he continues, "it doesn't lock me into what kind of storage I use, which helps us keep costs in line, and it resolves the issue of training staff to manage the system manually, which lowers maintenance costs."

At the same time, Cruz Natal says he'd like management tools that give him dashboardlike visibility into things such as the status of partitioning volumes or the disk pool when slowdowns occur. "Better integration of all the tools becomes more critical because we have so many systems," he says.

Getting training staff to deal with this new architecture is crucial, he says. You need at least three people: one who's familiar with how the application servers interact with the SAN, one who understands the SAN fabric itself and an administrator who knows how to create new partitions, move volumes around and troubleshoot the virtualization server.

How to Choose

Array-based, network-based, appliance-based — the fact is, there's no "best" choice for virtualizing. It all depends on what you're looking for. "You have to look at what kinds of operations that the virtualization device, wherever it is, can offer you as a user and which are most important to you," Webster says.

The question is, what's your pain point? "Some people want to slow down their hardware spending, and others want to decrease their administration budget," Asaro says. Some might want to rearchitect their entire storage infrastructure, while others want to implement tiered storage in piecemeal fashion, he says.

Despite general agreement that virtualization adoption will take off in the next year and a half, everyone agrees that the vendors have to get better at integrating heterogeneous systems and simplifying deployment. Brad O'Neill, an analyst and consultant at Taneja Group Inc. in Hopkinton, Mass., compares it to the server virtualization world. "VMware has an easy-to-deploy solution with a lot of flexibility," he says. "It has to get to that level." **56891**

Brandel is a Computerworld contributing writer in Newton, Mass. Contact her at marybrandel@verizon.net.

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Appliance-based (Also called fabric-based)	■ Supports heterogeneous storage resources and application servers. ■ Future versions will be based on the ANSI's Fabric Application Interface Standard (FAIS).	■ Some implementations lack scalability and reliability for critical systems. ■ FAIS still under development. ■ Potentially adds I/O latency and opportunity for security breaches. ■ Could introduce another layer of management complexity.
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Decluttered Data

Object-based storage brings order to dissimilar files.

By Jennifer Jones

SERVING AS A SORT OF BOOT CAMP for scattered data, object-based storage techniques thrive in organizations that need heavy doses of discipline both to appease hovering regulators and strengthen internal data retention and retrieval methods.

Here's how it works: Object-based archiving technology corrals disparate data files — documents, images, video clips or audio files — into content "objects" tagged with metadata to make the information searchable regardless of location. Also called content-aware or content-addressable storage, the technology is still in its infancy but is often hailed as a fast and easy way to pool and manage large data sets.

Right now, object-based archiving is most popular in heavily regulated sectors. Particularly drawn to the technology are health care and financial services organizations grappling with complex statutes such as the Sarbanes-Oxley Act's financial and accounting disclosure rules or the Health Insurance Portability and Accountability Act.

But the appeal of object-based storage is reaching beyond compliance. "Rapid adoption of this technology is likely among those corporations concerned with regulatory issues or those seeking self-imposed discipline," says Galen Schreck, an analyst at Forrester Research Inc.

"This technology simplifies the application of policies, especially those governing the retention of data," he says. Schreck characterizes object-based storage as a promising alternative to "dumb" storage — network-attached storage technology, for instance — although the technology still lacks standards (see story below).

Indeed, the simplicity of technology is key, agrees Michael Peterson, president of Santa Barbara, Calif.-based Strategic Research Corp. "Complexity is the No. 1 problem of enterprise storage efforts," he notes. "Fortune 1,000 companies can easily have 300 remote sites per company, and they have to start consolidating."

Management Benefit

Providers are hustling to convince corporate buyers of object-based storage technology's added value and ability to reduce complexity. "Compliance and legal discovery was a factor in selecting an object-based solution, but we found that it enhanced our ability to effectively manage storage," says Tom La Voie, Wintel support manager at Pacific Life Insurance Co. in Newport Beach, Calif., which uses EMC Corp.'s Centera Compliance Edition Plus.

The New York Botanical Garden (NYBG) is another example of a company looking beyond regulatory issues. The Bronx-based nonprofit certainly needs to comply with Sarbanes-Oxley provisions. But IT executives at the NYBG eyed object-based technology to improve the storage of digital assets tied to its collection of 7 million dried plant specimens.

"Some of these specimens date to Lewis and Clark," says Josh Freeman, NYBG's IT director. To avoid shipping fragile specimens to botanical researchers, NYBG has built a vast digital library using the Electronic Museum (EMu) system from KE Software in Vancouver, British Columbia. But NYBG officials hedged on using EMu's internal storage capabilities. "KE is great software and a great database, but everything it stores, it stores according to its own process inside the application," notes Freeman.

Ultimately, NYBG settled on Archivas Inc.'s Archivas Cluster, which pulls together data stored throughout NYBG's architecture — for instance, on FireWire hard drives, in PDF files or on DVDs. "We now have one large pool. That has made life easier because we have fewer bins that we are dropping data in," Freeman says.

Good Samaritan Community Health Care in Puyallup, Wash., also decided not to commit to the storage options found in a single application. The facility recently adopted a picture archive and communications system to generate and manage large image and video files. "But we decided to design storage services separately," says Eric Lowe, Good Samaritan's technology and operations manager.

Using Permabit Inc.'s Permeon Compliance Store package, Good Samaritan was able to meet its need for massive storage capacity — a chest scan alone consumes 5MB to 10MB — and address the complex formulas the entire health care industry must employ for data retention. "For example, a chest CT scan must be kept for a minimum of 10 years, but in all pediatric cases, the files must be kept three years past the point at which the patient turns 21," Lowe explains.

For Lowe and others struggling with such data-retention mandates, object-based storage can make life easier, says Forrester's Schreck. "The technology simplifies the application of policies," he says. Plus, these systems impose hardware-level enforcement of the policies, Schreck adds.

Enforcement is critical, especially in sectors such as financial services. "For e-mails and other documents to be admissible in court, you must be able to prove that items have not been tampered with," says Richard Hall, group IT manager at Coda Financials Inc., a provider of accounting and procurement systems in Manchester, N.H. Coda uses Hewlett-Packard Co.'s Reference Information Storage System.

Whether it's to make a case in court or simply to shore up existing storage methods, object-based technology may well be worth a look. **56885**

Jones is a freelance writer in Vienna, Va. Contact her at jjwriterva@aol.com.

Race for Standards

ALTHOUGH OBJECT-BASED STORAGE makes it possible to span a variety of repositories and better appease regulators, the fledgling technology lacks standards and might pose some risk to early adopters.

"If there is a downside at all to this technology, it is centered on the way in which the objects are stored," claims Galen Schreck, an analyst at Forrester Research. "We are in advance of any standards."

However, the Storage Networking Industry Association and others are working to establish common ground on object-based storage technologies. "We are now defining this new methodology and developing standards," says Michael Peterson, SNIA's founder and president of Strategic Research Corp.

With standards on the way and the added benefits that object-based storage provides over more common network-attached storage, the risk is small and arguably worthwhile, Schreck says.

–Jennifer Jones

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Helps keep up with growing capacity and reduces the management load by bringing several storage management functions into a single interface. Complex and costly when first introduced to the market, SRM is now simple to use. Its main challenge is a lack of smooth interoperability among hardware and software products

Watchful Eye

Storage resource management offers a single window into the storage network.

By Drew Robb

STORAGE IS getting very cheap. Even a home user can get a 1TB LaCie external desktop drive for less than $1,000. The bad news is that because storage prices have fallen so sharply, capacity is growing 60% to 100% annually, so the amount of capacity each storage administrator needs to manage is going through the roof. The complexity of storage architectures is also increasing.

George Rodriguez, lead systems programmer at ABC Distributing LLC in North Miami, Fla., oversees the catalog and online retailer's IBM Enterprise Storage Server 2105 Model F20 storage array, which services a z800 mainframe as well as Unix servers running Oracle Financials. "The amount of storage available to the system is 4.3TB," he says. "Without an automation tool, managing this amount of storage would be an impossible task."

Lacking tools to gain visibility into and control over storage, the company was running out of space, and that was causing delays in batch processing. A year ago, Rodriguez installed BrightStor CA-Vantage, a storage resource management (SRM) tool from Computer Associates International Inc., to provide a common interface for both the z800 and Unix

Continued on page 60

ENRICO VARRASSO

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"Setting up my own views took a little longer but was well worth the effort," he says. "Once you start using the facilities of the product, you can set up the same look and feel on both the mainframe and open-systems sides."

Simpler Storage

SRM can improve the efficiency of storage use and reduce the management load by bringing a number of functions into a single interface. Some SRM tools are stand-alone products, but SRM features are also found in some management applications. Functions vary by product, but they can include data collection, backup and recovery, user authentication, provisioning and performance monitoring.

"SRM is very useful as a capacity management tool, since it is the only tool that can do discovery of data characteristics for information life-cycle management, capacity management or, in some cases, change management," says Michael Peterson, president of Strategic Research Corp. in Santa Barbara, Calif. "By themselves, they don't reduce complexity, but they do offer a view into an area that is hard to get your hands around, especially for unstructured data."

In fact, while SRM tools are designed to help reduce complexity, the complexity of the tools themselves hampered early adoption.

"In the past, SRM was trying to bite off too big a chunk for most to swallow," says Steve Duplessie, an analyst at Enterprise Strategy Group Inc. in Milford, Mass. "It was too expensive and did so many things that no one could really use it."

That's no longer the case. According to figures issued by market research company IDC last month, the worldwide storage software market has experienced double-digit growth, hitting $2.1 billion in the second quarter of this year, an 11.8% increase over the previous year. SRM sales represented about one-third of that overall figure. Part of the growth is a result of SRM following the path taken earlier by ERP and framework packages: Products are being broken down into smaller modules.

"Forty-five percent of larger enterprises have already adopted some SRM somewhere in their world, and 20% more will do so this year," says Duplessie. "SRM will take off now that it is cheaper and simpler and geared to where the midmarket can afford and implement it."

Retention Policies

Chris Meredith, manager of technical services at Lincare Holdings Inc., a $1 billion company in Clearwater, Fla., that provides oxygen and respiratory services for in-home patients nationwide, says he, too, found it easy to set up an SRM tool. It took Meredith three to four hours to install the Northern Storage Suite from Northern Parklife AB in Stockholm. He uses it to manage 4.5TB of storage at Lincare's headquarters and another 30TB at its primary pharmacy facility in Kansas City, Mo.

"With Sarbanes-Oxley and HIPAA, future retention of certain types of information became more relevant, so we decided to take a proactive approach," Meredith says. "We wanted to start limiting users on how much storage they could use and start implementing retention policies before it became a problem."

He's currently using the Northern software to limit storage shares, setting a 150MB cap on users' home directories. When users get close to that limit, the SRM system sends them an e-mail telling them where to go to view their files and delete anything they no longer need.

"An added benefit we have seen is that people no longer board information in their home directories," says Meredith. "When we started putting in hard caps on their home directories, they started moving that information into a place such as a departmental share where more people can access that information."

Lincare has saved money with SRM by cutting down on the amount of storage capacity needed. Meredith has been able to block employees from saving MP3 data, for example, and as they move files to department shares, there are no longer multiple copies of the same document stashed in different home directories. He has also found it useful for capacity planning to have accurate information on what's being stored. "If I hear another manager saying that he will need additional capacity, I can go into a meeting and say that I ran a report which shows that 60% of the data is stale," Meredith says. "Rather than having to buy [storage-area network] space, we can just archive the data."

While Lincare is now using the Northern suite just on users' home directories, Meredith says he plans to use it for Exchange and database files as the company continues to develop its retention policies.

"Overall, the software gives me a better snapshot of how we are using storage from an enterprise level," says Meredith.

Multitier Management

Lincare uses its SRM tool to manage a single storage tier. Credit reporting firm Experian Information Solutions Inc., on the other hand, has more than 115TB of three-tier storage at its data warehouse in Schaumburg, Ill.

Tier 1 is EMC Corp. DMX-type disks holding primary databases. Tier 2 consists of EMC Clariion CX700 disks and 146GB drives for Exchange and file servers and other processes that are less I/O-intensive than the databases. Tier 3 is network-attached storage (NAS) disks or slower ATA disks used for flat files or files that are being transferred from mainframes to distributed computing.

"It was tough to manage and keep track of how it was all allocated in order to keep the costs in check," says architecture expert Ernie Demers. "It was a burden on our operations people who had to spend time manually creating reports by going to each server to see which file system it had and what percentage was being used."

To cut the management load, two years ago, Demers had EMC install its ControlCenter multivendor SRM suite on a Dell server. And Experian recently upgraded to Version 5.2 on its own. Like Meredith, he says the SRM has more features than his staff can use. But as they learn more, they'll use more. For example, Demers is using the reporting functions to allocate space more efficiently and to put together the business case for buying more storage. But he isn't using it to migrate files from tier to tier.

"It wouldn't be bad to get to that point in the future, where we would have a true well-oiled machine as regards tiering," Demers says. "But we have a little work to do before we get to that point."

Nevertheless, the software has already greatly cut down on the management workload. Experian used to have three to four people helping out. "Now we have over 110TB managed by one storage admin," he says. "That is pretty phenomenal considering the type of data we have and the different types of data storage." **56973**

Robb is a Computerworld contributing writer in Los Angeles.

Continued from page 58

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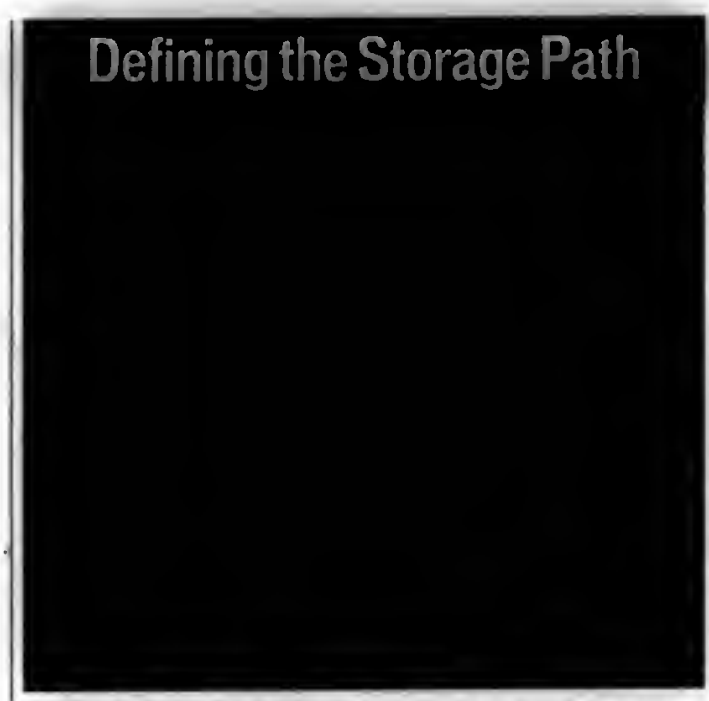

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Multitier Management

Lincare uses its SRM tool to manage a single storage tier. Credit reporting firm Experian Information Solutions Inc., on the other hand, has more than 115TB of three-tier storage at its data warehouse in Schaumburg, Ill.

Tier 1 is EMC Corp. DMX-type disks holding primary databases. Tier 2 consists of EMC Clariion CX700 disks and 146GB drives for Exchange and file servers and other processes that are less I/O-intensive than the databases. Tier 3 is network-attached storage (NAS) disks or slower ATA disks used for flat files or files that are being transferred from mainframes to distributed computing.

"It was tough to manage and keep track of how it was all allocated in order to keep the costs in check," says architecture expert Ernie Demers. "It was a burden on our operations people who had to spend time manually creating reports by going to each server to see which file system it had and what percentage was being used."

To cut the management load, two years ago, Demers had EMC install its ControlCenter multivendor SRM suite on a Dell server. And Experian recently upgraded to Version 5.2 on its own. Like Meredith, he says the SRM has more features than his staff can use. But as they learn more, they'll use more. For example, Demers is using the reporting functions to allocate space more efficiently and to put together the business case for buying more storage. But he isn't using it to migrate files from tier to tier.

"It wouldn't be bad to get to that point in the future, where we would have a true well-oiled machine as regards tiering," Demers says. "But we have a little work to do before we get to that point."

Nevertheless, the software has already greatly cut down on the management workload. Experian used to have three to four people helping out. "Now we have over 110TB managed by one storage admin," he says. "That is pretty phenomenal considering the type of data we have and the different types of data storage." **ID 50073**

Robb is a Computerworld contributing writer in Los Angeles.

DLT-V4 vs. DAT 72
DAT 72
DLT-V4
NOTES
4X THE CAPACITY
3X FASTER
2X BETTER
DLT-V4
TESTED BETTER
DLT

Cleaning Out the Attic

Data classification tools offer policy-based management of data, freeing up primary storage.

By Lucas Mearian

MATT DECKER, an IT manager at the National Nuclear Security Administration, knew he couldn't continually add expensive high-end storage arrays to keep up with the agency's 40% annual data growth rate. And manually deleting recycle bins and temp files wasn't freeing up enough space.

"When data keeps growing, you suddenly become a slave to it," he says.

Decker wanted to see the type of data that was filling up his high-end disk, so he could rate the value of it and determine where and how he should move it to cheaper storage media, either online or off-line.

Enter Mountain View, Calif.-based Arkivio Inc., which Decker hired two years ago to perform a data audit. He was shocked at what Arkivio found. The majority of the stored data was duplicate files, temporary files and e-mail attachments — 3.5TB of it. "If someone sent an e-mail to me with an attachment I thought was neat, I'd save it, and so would everyone else who got it," says Decker.

Simple Do

auto matically tag data prior to backup and use a policy engine to determine how to store it based on its importance to the business. But most of these tools address only unstructured data, like that created by e-mail and file-serving applications, not database records.

Now, using Arkivio's Auto-xplor tool, Decker can automatically tag that data before it's backed up and set a policy engine to determine how to store it based on its importance.

"The software and hardware was expensive. But the way I see it . . . at our growth rate, it was going to be that much more expensive later," he says. "I'm looking at a material cost avoidance of close to $1 million in six years."

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ENRICO VARRASSO

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This sort of data classification, or tagging, used to be manual. But many start-up vendors are now selling tools that place agents on application servers to search volumes. The classification software then creates reports on those volumes and places that information in a database that can be searched.

For example, data classification software has fields such as "date created" and "date last accessed" and performs searches based on keywords. Administrators can then create policies that will determine where data should be stored once it's classified.

Companies such as Arkivio, Njini Inc. in London, Kazeon Systems Inc. in Mountain View, Calif., and StoredIQ Corp. in Austin have been early to market with software that can classify and store data across multiple applications, such as e-mail and file servers.

Carolyn Dicenzo, an analyst at Gartner Inc., says e-mail is the No. 1 offender for eating up space on primary storage arrays. Text files are No. 2. And this data can be risky to hold on to: When stored longer than necessary, e-mails can be difficult to wade through for legal discovery purposes and expose a company to litigation.

To date, data classification vendors have almost exclusively offered products for handling unstructured data, such as e-mail and text files. Structured data in databases doesn't need to be categorized, but there's a growing need to index that data so it, too, can be searched. The only company currently addressing structured data indexing is CopperEye Ltd. in Wiltshire, England, with its Greenwich software, says Steve Duplessie, an analyst at Enterprise Strategy Group Inc. in Milford, Mass.

Compliance-driven Effort

CDW Corp., a $5.7 billion technology reseller in Vernon Hills, Ill., expects to spend more than $1 million on the hardware and software needed to implement a data classification and tiered storage architecture. The goal is to better manage up to 250TB, much of which is on primary storage.

"For Fortune 500 companies, compliance issues have been a big deal for us this past year. All that turned our attention to records management and [information life-cycle management]," says K.C. Tomsheck, senior director of IT operations at CDW.

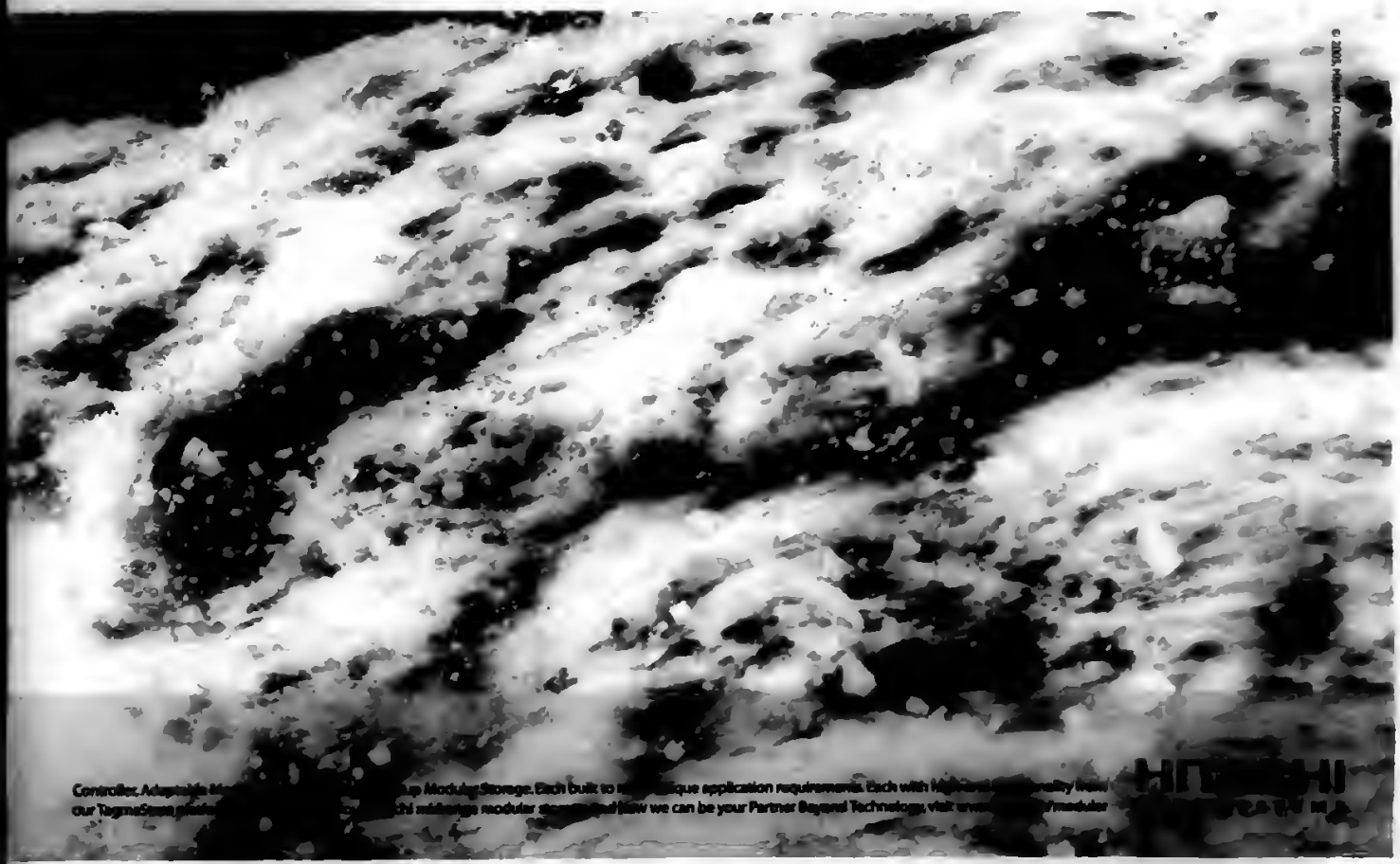
Tomsheck began implementing the data classification project in June. In the first phase, his legal department set policy definitions for how to treat different types of data. The project management office classified the data in the second phase, and in the final phase, the network engineering group will identify the technology to support a tiered storage architecture.

Tomsheck says the company's primary and backup data centers are both centrally located in Chicago, which helps tremendously in his data classification effort. "Databases, e-mail, file-shared documents, including unstructured data — it all resides on storage across two locations. That helps that we have data in one primary point and can evaluate it from there," he says.

The company purchased 12 EMC Corp. network-attached storage (NAS) arrays, including the Centera content-addressed storage array. If all goes as planned, about 150TB of data will be removed from primary storage arrays and placed onto the secondary NAS arrays. "We look at it as a 'pay me now or pay me later' proposition," says Tomsheck, who's hoping for a return on his investment in three to four years.

Duplessie notes that the cost of data classification isn't usually in the technology itself, but rather in the time spent determining how to categorize and classify the data.

As part of his strategy, Decker purchased an EMC Centera content-addressed storage array in order to archive e-mail and files online so end users can still access the data. 50976



MARK HALL

Storing Stuff

ALL END USERS HAVE lots of different stuff on their computers. And data storage managers should have a plan for every bit of it.

Sounds simple. But it's not. If anything, it's getting more complex, maybe to the breaking point, beyond where IT can have a semblance of control of its total corporate storage environment.

Before you can claim to know what your data storage environment is, you need to know where all the information is going. Wouldn't that fall under the vague and menacing Section 404 of the Sarbanes-Oxley Act, which calls for having "internal control over safeguarding of assets against unauthorized acquisition, use or disposition. . . ."? Yet, how can CIOs seriously tell their bosses that they have full knowledge, let alone control, over who stored what corporate data where? People load contact lists onto iPods, they file sales-letter templates on Windows mobile handhelds, they save sensitive e-mails on BlackBerry devices, and they keep who-knows-what on laptops. Some of these devices are issued by the company. Most are not. Some store only data defined by IT policy. Most store all that information and much more. This is control?

It's not a very funny situation. But the best way to understand the scope of the problem is to take a lesson from one of George Carlin's comic routines, "A Place for My Stuff." (For those of you who have forgotten the monologue, here's a Web site with a refresher: *www.writers-free-reference.com/funny/story085.htm.*)

Carlin starts off by observing that a house "is just a pile of stuff with a cover over it." Then he says when you go on vacation, you pack some suitcases. "You gotta take a smaller version of your house," he says. "It's the second version of your stuff." As he progresses through the long gag, Carlin talks about how we use increasingly smaller and smaller containers for our stuff, until he gets down to the stuff we can, um, stuff into our pockets.

Carlin's containers for his "stuff" are analogous to the modern end user's data repositories in today's business. People are more than willing to carry less stuff in order to be mobile. But they definitely need at least some of their stuff. So, the best storage managers should try to accommodate how people want to tote it around.

That means you need to offer multiple ways for end users to store mobile data. One size doesn't fit all. (Seven different iPod configurations, from 500MB to 60GB in capacity, seem to bear this out.) Whether it's the BlackBerry 7270 of today or the upcoming Nokia 770, powerful, high-performance, high-capacity mobile devices are proliferating among your end users and outside of IT's purview.

As Frank Hayes wrote in "Got Gadgets?" [QuickLink a7280] five years ago in these pages, you can't win against the tide of faster, cheaper, better mobile units with increasingly capacious storage systems. Don't fight it. Frank's advice is to recognize who the gadget freaks are and help them with their new toys, especially when they want to connect them to corporate data stores on the network. He says spending a little time with these people upfront is better than having to clean up their messes later.

Frank's advice made perfect sense five years ago, when, as he wrote, you were dealing with Handsprings, Jornadas, Cassiopeias and other carcasses in today's mobile market. And it's still sound advice today. But I think it could use a little tweaking.

Today, you have to let end users carry their stuff on the device of their choice. Whatever it is. Don't try to create a corporate standard. There's no point. (Besides, whatever you put in their pockets today is the Cassiopeia of 2007.) Whatever you invest in will be superseded many times over by the time your chief financial officer lets you fully depreciate and upgrade the devices.

No, don't regulate the device; regulate the data-collection process. In the first place, the data is what it's all about, not the thingamajig. And since it's unlikely you can stop people from doing what comes naturally with their stuff, you need to persuade them to share it with you.

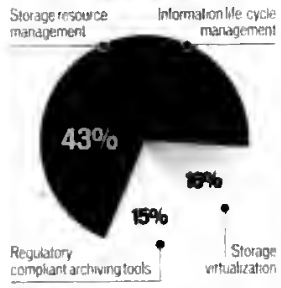
Here's what I suggest. Start a contest at work. Have people bring in any and all devices that they've stored company data on — cell phones, PDAs, thumb drives, everything. Have prizes for the most devices, the oldest device, the most data stored, the least. Whatever. Lots of prizes. Good ones, too, like iPod Nanos.

Take the devices and download the corporate data from all of them. Give them back to your end users. Hold the contest every year. You'll be doing the company a favor and making friends in the process.

56889

Storage Vitals

What are your greatest storage management needs?



SOURCE: Storage Networking World audience survey results, April 2005. Audience members were polled during select sessions; registered attendees totaled more than 2,700.

Storage Heavyweights

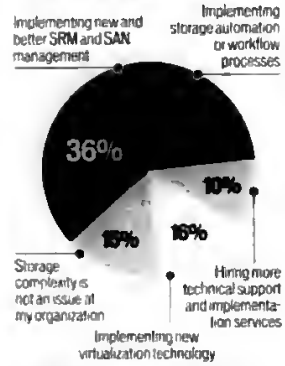
Revenue for worldwide storage software in the first quarter of 2005:

1. EMC Corp.	$625M
2. Veritas Software Corp.	$445M
3. IBM	$178M
4. Network Appliance Inc.	$139M
5. Hewlett-Packard Co.	$137M

SOURCE: IDC Worldwide Quarterly Storage Software Tracker

War Against Complexity

Which statement best describes how you address storage complexity?


Implementing new and better SRM and SAN management
Implementing storage automation or workflow processes
36%
10%
19%
16%
Storage complexity is not an issue at my organization
Hiring more technical support and implementation services
Implementing new virtualization technology

SOURCE: Storage Networking World audience survey results, April 2005. Audience members were polled during select sessions; registered attendees totaled more than 2,700.

SNAPSHOTS

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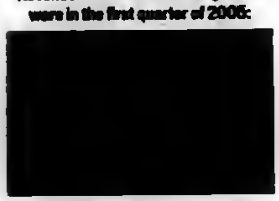

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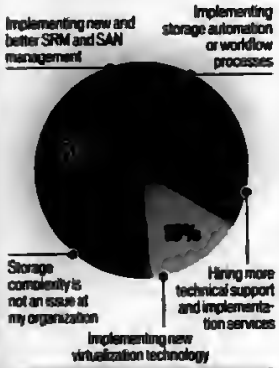
Implementing new and better SRM and SAN management
Implementing storage automation or workflow processes
31
19%
Storage complexity is not an issue at my organization
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Hispanics make up 5% of the information technology workforce across the United States. SBC, formerly Southern Bell, is pushing the envelope to hire a workforce that reflects its customers. The result: 6.4% of SBC IT employees are Hispanic.

Gary Fraundorfer, vice president-human resources, says that overall 13% of the company's employees are Hispanic and 51% of the new hires in 2004 were people of color. It's no simple equation to beat the national odds, particularly when there has been little change in Hispanic representation among IT workers nationwide over the past six years.

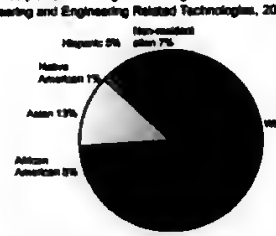
According to Information Technology Association of America's Diversity Study, released earlier this year, the data has not changed over the past five years. The percentage of Hispanics earning IT degrees since 1999 remains unchanged and was, in fact, outpaced by non-resident aliens earning IT degrees.

"Our future employees are members of the communities we serve today and, in reaching out to them now, we strengthen our ability to attract and recruit the very best," Fraundorfer says. The company uses web-based recruiting tools that touch nearly 30 different diversity sites for job seekers. "We also acknowledge Hispanic professional organizations as high potential Hispanic recruiting channels," Fraundorfer says, pointing to the Hispanic Alliance for Career Advancement and the National Society of Hispanic Professionals. The company has established recruiting partnerships with colleges and universities in Texas – UT-San Antonio, UT-Dallas, UT-Austin, Texas A&M, Southern Methodist, Texas State and Texas Tech. "We also partner with the SBC employee networks, such as the Hispanic Association of Communication Employees of SBC to reach out to the Hispanic community through education and training in various areas, from career goal-setting to resume writing and interviewing skills," he adds.

The bottom line, however, is that Fraundorfer and SBC look at diversity as an essential ingredient to business success. "We succeed when we recruit and hire the very best talent and give employees options for career development and advancement," he says. "IT Services at SBC employs more than 15,000 managers, associates and contractors, making it one of the largest IT organizations in the country. One out of every five SBC managers is an IT services employee." The group provides application development and data center, billing and payroll operations for the entire enterprise from 100 cities across the country. The primary locations are in San Francisco, New Haven, Chicago, Detroit, St. Louis, Cleveland, Milwaukee, Dallas and Houston.

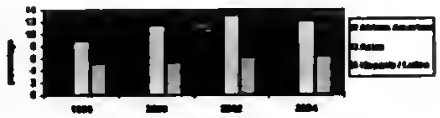
IT Services was a key partner in winning SBC's second CIO Magazine Enterprise Value Award for the Equipment Capacity Optimization Systems network planning application suite.

Recipients of Undergraduate Degrees in Computer Science, Engineering and Engineering Related Technologies, 2001-2002, by Race



Source: ITAA/U.S. Department of Education, National Center for Education Statistics, Integrated Post Secondary Education Data, fall 2002 survey

Racial Diversity in the IT Workforce 1999-2004



Source: ITAA/Bureau of Labor Statistics Current Population Surveys estimates, except for 1999 estimate of Asians in the IT workforce, which is National Science Foundation

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Analyst/Developer - New York, NY - Develop real time middleware software components to serve data distribution platform. Required: Bachelor's in Computer Science, Engineering, MIS or related field plus 2 yrs exp in job offered or as software analyst. Prior exp must include development of operating system level components for real time infrastructure utilizing C/C++, UNIX, & TCP/IP. Job Code: TECH081405ADNY.

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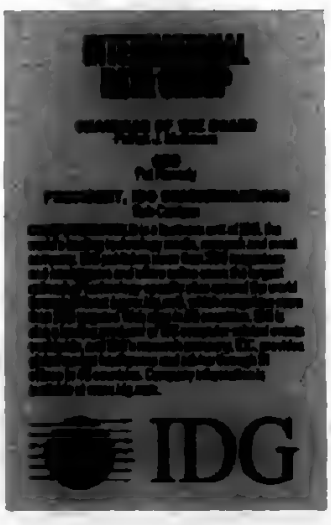

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Holes

that the Red Cross has also installed intrusion-prevention technology on "riskier segments" of its network perimeter to provide additional protection against attacks.

Satish Ajmani, CIO of Santa Clara County in California, said the county government was "aggressively" testing and deploying the patches from Microsoft.

"We are a very large and distributed organization, and we used to take several days to roll out patches," Ajmani said. But outbreaks such as the Zotob worm have "heightened awareness and understanding" of the need for more-effective patching strategies among county officials, he added.

Immunity Inc., a Miami-based security research firm, on Wednesday released a proof-of-concept exploit taking advantage of a flaw in the

Microsoft Distributed Transaction Coordinator (MSDTC) service within Windows 2000. The flaw, which some analysts described as being relatively easy to exploit, could allow attackers to take complete administrative control of unprotected servers.

Justine Aitel, Immunity's CEO, said the firm was able to develop a workable exploit of the flaw in just a few hours. Immunity released the exploit code to members of its partner program, which includes vendors of security products such as intrusion-detection and -prevention systems, so they could use the information to update their tools to protect against the flaw.

In addition to the exploit code for the MSDTC vulnerability, Immunity has developed proof-of-concept exploits for two of the other flaws that were disclosed by Microsoft last week, Aitel said.

In an e-mail comment, a Microsoft spokeswoman said that the company knew about the exploit code's availability. But, she added, the software vendor "is not currently aware of active attacks that use this exploit code, or of customer impact at this time."

Nooetheless, similar exploits of the MSDTC flaw could quickly become widely available, said Neel Mehta, team leader of the X-Force research team at Internet Security Systems Inc. in Atlanta.

"It's almost certain that other hackers are working on the same thing right now," Mehta said. He noted that apart from the relative ease with which the flaw can be exploited, the vulnerability presents a tempting target for attackers because the MSDTC service runs by default on Windows 2000 servers and can be taken advantage of without users having to take any action.

Alfred Huger, senior director of engineering for Symantec Corp.'s security response team, said his company hadn't received any reports of systems being compromised via the MSDTC flaw as of Thursday. But he warned that the new vulnerability presents the same kind of opportunity for malicious hackers that led to the Zotob outbreak, which caused problems at several large companies.

Fenwick & West LLP managed to avoid getting hit by Zotob because its antivirus software was effective at filtering out the worm, said Matt Kesner, chief technology officer at the Mountain View, Calif.-based law firm.

Nonetheless, the firm has sped up its patching processes out of concerns about similar outbreaks. IT staffers now hold a meeting "immediately after Microsoft releases its patches" on the second Tuesday of each month, Kesner said. "Then we try to test and get the patches out by Friday." Last week, the firm finished deploying the new patches on Thursday night. **57539**

New MySQL Version Adds Enterprise Capabilities

BY JAMES NICCOLAI

MySQL AB is eyeing a November release for Version 5.0 of its open-source database, a major upgrade that the company hopes will help it become a realistic alternative for corporate users.

If all goes well with the latest test release of the software, Version 5.0 should ship next month, said Kaj Arno, vice president of community relations at Uppsala, Sweden-based MySQL.

MySQL 5.0 adds a handful of enterprise-oriented features — such as triggers, views and stored procedures — that have long been available from database market leaders Oracle Corp., IBM and Microsoft Corp.

Nonetheless, analysts are skeptical that the new version has advanced enough to gain widespread interest from corporate IT managers. Gary Barnett, an analyst at London-based research company Ovum Ltd., said that while MySQL is adding some basic enterprise features, Oracle, IBM and even Microsoft continue to offer capabilities that keep their products far ahead of the open-source database Still, MySQL 5 elevates the open-source software into the class of a "true database," said Barnett.

Therefore, more independent software vendors will likely embed it in their products, leading to deployments in new environments, he said. "They are much more credible now for ERP and for transaction-based applications," Barnett added.

In fact, though no ERP applications are certified to run on MySQL today, David Axmark, a MySQL co-founder and vice president overseeing licensing and strategy, said the company is currently working on certification with SAP AG and Netherlands-based financial software vendor Unit 4 Agresso NV. SAP certification is likely within a year, Axmark said.

The new version of MySQL also changes the way the database performs common tasks, making it behave more like other databases. The goal, officials said, is to make it easier for database administrators to switch from other systems.

The price for MySQL Network, the company's subscription support service, for the new version still ranges from $594 to $4,806 per server per year, depending on the service level required, Axmark said.

MySQL officials have long maintained the technology is complementary — and not competitive — with the enterprise databases of IBM and Oracle. And with Version 5, said Axmark, MySQL still "won't attack the data center installations, but there are thousands of other platforms out there for which, in some cases, an enterprise database may be too much." **57537**

Niccolai is a reporter for the IDG News Service.

Microsoft Fixes 14 Flaws, 4 'Critical'

MICROSOFT last week released a total of nine security updates with fixes for 14 separate vulnerabilities, four of which were given "critical" severity ratings by the software vendor.

Among the critical flaws, the ones that evoked the most concern among security analysts were the vulnerability in MSDTC, which is used by Windows to manage database, messaging and file-system transactions, and a hole in the COM+ service that's built into the operating system to handle resource management tasks.

The two flaws were detailed in a single security bulletin by Microsoft, which officially counted them and two that were less severe as just one vulnerability – a standard practice that the company uses when one patch can fix multiple security holes.

Both flaws could enable hackers to gain complete administrative control of unprotected servers and are similar to the vulnerability in a plug-and-play component of Windows 2000 that the creators of Zotob and its variants took advantage of in August.

But Russ Cooper, editor of the NTBugtraq newslist and a scientist at IT security vendor Cybertrust Inc. in Herndon, Va., said via e-mail that the newly discovered vulnerabilities are unlikely to give would-be attackers any more of an opening than they already had. "Systems vulnerable to an MSDTC worm are wide open to the Internet," he said. "Such systems are ripe for attacks of all sorts anyway."

Microsoft on Friday said it was aware of "isolated deployment issues" with the patch for the MSDTC and COM+ flaws. The company was "working with the limited amount of customers affected to help resolve the issue," a spokeswoman said via e-mail. It also posted a notice describing various system problems that could occur after installing the patch, plus workarounds for fixing them, she added.

The SANS Institute's Internet Storm Center in Bethesda, Md., said it had heard from more than two dozen people who reported that they had problems when they tried to install the patch.

– Jaikumar Vijayan

Congratulations Award Recipients!

Computerworld's Enterprise Management World, in conjunction with the Distributed Management Task Force (DMTF), proudly announced the results of the second annual "Best Practices in Enterprise Management" Awards Program. This program recognized case studies highlighting noteworthy solution implementation projects and deployments.

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Award Recipients in each of the following categories were recognized during an awards ceremony at Enterprise Management World in Bethesda, MD, September 14th:

Distributed Systems and Infrastructure Implementation

- **Fulton County Department of Information Technology – Atlanta, Georgia**
- **Rent-A-Center, Inc. – Plano, Texas**

Honorable Mentions: ***Denver Health Hospital and Medical Center – Denver, Colorado***
Iron Age Corporation – Westborough, Massachusetts
Oklahoma Heart Hospital – Oklahoma City, Oklahoma

Security and Risk Management

- **BT – New York, New York**
- **Lehman Brothers – New York, New York**

Honorable Mentions: ***Forsyth County – Winston-Salem, North Carolina***
MasterCard International – O'Fallon, Missouri
Media General – Richmond, Virginia

Industry Regulation, Compliance and Corporate Governance

- **The Guardian Life Insurance Company of America – New York, New York**

Honorable Mentions: ***Aspect Communications – San Jose, California***
Finisar – Sunnyvale, California

Managing to Improve TCO/ROI

- **Countrywide Financial Corp. – Calabasas, California**
- **SMART Communications, Inc. – Makati City, Philippines**

Honorable Mentions: ***Belgacom – Brussels, Belgium***
Calpine Corporation – Houston, Texas
Oakland County – Pontiac, Michigan

Innovation and Promise

- **City of Austin – Austin, Texas**
- **Northeastern University – Boston, Massachusetts**

Honorable Mentions: ***Intel (in partnership with RosettaNet) – Santa Clara, California***
Kroll Ontrack Inc. – Eden Prairie, Minnesota
The New York Botanical Garden – Bronx, New York

Tools Clamp Down on Spreadsheet Abuse

New offerings can provide IT control over access to data

BY HEATHER HAVENSTEIN

IT shops are increasingly embracing new business intelligence tools that aim to forge a balance between strident user demands for spreadsheets and corporate requirements that financial data be consistent and accurate.

Actuate Corp. this week plans to unveil a spreadsheet development environment for building enterprise-class systems with customized user interfaces and strong management controls.

The new Spreadsheet Application Platform also contains server-managed workflow and automated write-back to central data stores so transactional systems can be updated to reflect user changes through a process based on rules set up by IT operations, according to San Francisco-based Actuate.

Odom's Tennessee Pride Sausage Inc. will use the Actuate release to create a spreadsheet application for its ERP system that can lock down information that shouldn't be changed.

The tool will also allow for updates of Odom's corporate database using authorized data placed into spreadsheets, said Michael Hader, director of IT at the Madison, Tenn.-based company. "Obviously, this creates a much more productive environment for collaborative analysis," he added.

The company, which now uses Actuate's spreadsheet reporting software, plans to upgrade to the new product soon after it ships this week, he said.

Closer Ties to Office

Fujitec America Inc., a manufacturer of elevators and escalators, turned to Actuate three years ago when the company realized it could never extricate spreadsheets from the enterprise system, said Rick Groth, CIO at the Lebanon, Ohio-based company.

Since then, the company has used Actuate's spreadsheet tools to deliver reports from its ERP systems in an Excel-compatible format.

Groth said he is interested in the new platform because of its ability to write back to transactional systems.

Eric Rogge, an analyst at Ventana Research Inc. in San Mateo, Calif., said the new spreadsheet tools appeal to companies as they look to better integrate BI tools and Office applications like Excel. This integration will allow users to avoid the cut-and-paste process of moving information from corporate data sources into reports and other documents, he added.

Meanwhile, Hyperion Solutions Corp. last week brought out Hyperion System 9, which marries the company's BI and financial management software with a single user interface. The new version also provides controlled access to spreadsheets that can be automatically updated as authorized data from underlying transactional systems change, said John Kopcke, chief technology officer at the Santa Clara, Calif.-based vendor.

Booz Allen Hamilton Inc. is using a beta version of Hyperion 9 for a pilot project automating the creation of end-user dashboards, said Kevin Cook, director of company-wide financial reporting systems at the McLean, Va.-based consulting firm.

Cook envisions that the new system will allow Booz Allen users to automatically update Microsoft PowerPoint presentations with embedded Excel spreadsheets that are now used to provide company executives with details about enterprise operations.

"Now they are running some old reports against the data warehouse and dumping that into Excel," Cook said. "Sometimes they are finding errors and correcting the data [in the spreadsheet] instead of coming back to the source system to correct the data." 57534

Continued from page 1

ITIL

progress. As part of the ITIL process, tech-support workers assigned to the company's help desk were retrained or replaced with systems analysts and employees who could probe application problems.

Using workers with better skills increased GuideStone's payroll costs but led to a dramatic turnaround in responsiveness, Sawyer said. Most IT problems are now resolved within seven minutes, she noted. Before the adoption of ITIL, it sometimes took more than a day to fix problems.

Jim Marrs, data center manager at Austin Energy in Texas, said the utility started implementing ITIL this year. Marrs said he sees the standard as a framework for organizing internal processes, "so IT is more focused as a service."

For IT staffers, that means documenting their activities in more detail, as well as spelling out the steps and processes used to manage IT-related events and changes to systems, he added.

ITIL was developed in the 1980s by the U.K.'s Central Computer and Telecommunications Agency and is now maintained by that country's Office of Government Commerce. The standard incorporates suggested best practices across a spectrum of IT processes and also details those processes while documenting how to manage them.

But getting IT workers to change their ways isn't always easy, said Slater M. Butts, director of network services at Safeway Inc. in Salt Lake City. When it comes to standards such as ITIL, many IT staffers really "don't like to adhere to them," he said. "They just like to carry the banner."

However, Butts sees value in ITIL, which Safeway's IT operation has been deploying in a gradual way for the past four years. Having a framework for internal IT services "takes cost out of the process because you don't have to re-engineer them" whenever you need to make changes, he said.

Richard Davenport, a senior consultant at Bridgeport, Pa.-based Fox IT LLC, which helps companies implement ITIL, said the standard forces adopters to think about IT more as a service than as a collection of technologies.

For instance, Davenport said that if a company's help desk — or service desk, as it's often called in ITIL shops — discovers a number of small errors, ITIL problem-management processes will trigger a search for larger underlying causes. Tech-support workers also can become more proactive and recommend new IT services that add value for business users, Davenport said. 57542

Data Center Standards Get A Broader View

CHICAGO

AFCOM MEMBERS have always been interested in standards affecting things such as the cabling in data centers. But at last week's conference, there seemed to be growing interest in standards that can have a broad impact on IT and data center management – including, but not limited to, ITIL.

For instance, Steve Hernandez, Omaha-based director of enterprise management and processing services at First Data Corp., is participating in an effort to promote the Data Center Markup Language.

DCML, which is being spearheaded by the Organization for the Advancement of Structured Information Standards, can be used by IT vendors to improve product interoperability. The standard allows hardware devices and management systems to work with one another, potentially improving data center management as well as the ability to configure and document IT facilities.

Although Hernandez said he doesn't know how much money he could save at First Data's seven data centers through the use of DCML, he sees increased standardization as a critical element of improving IT efficiency and cutting operating costs.

"What I'm looking for as a user is for vendors to provide [DCML compliance] as part of their products," said Hernandez, who added that he hopes more users will join the effort to convince vendors to adopt the standard.

– *Patrick Thibodeau*

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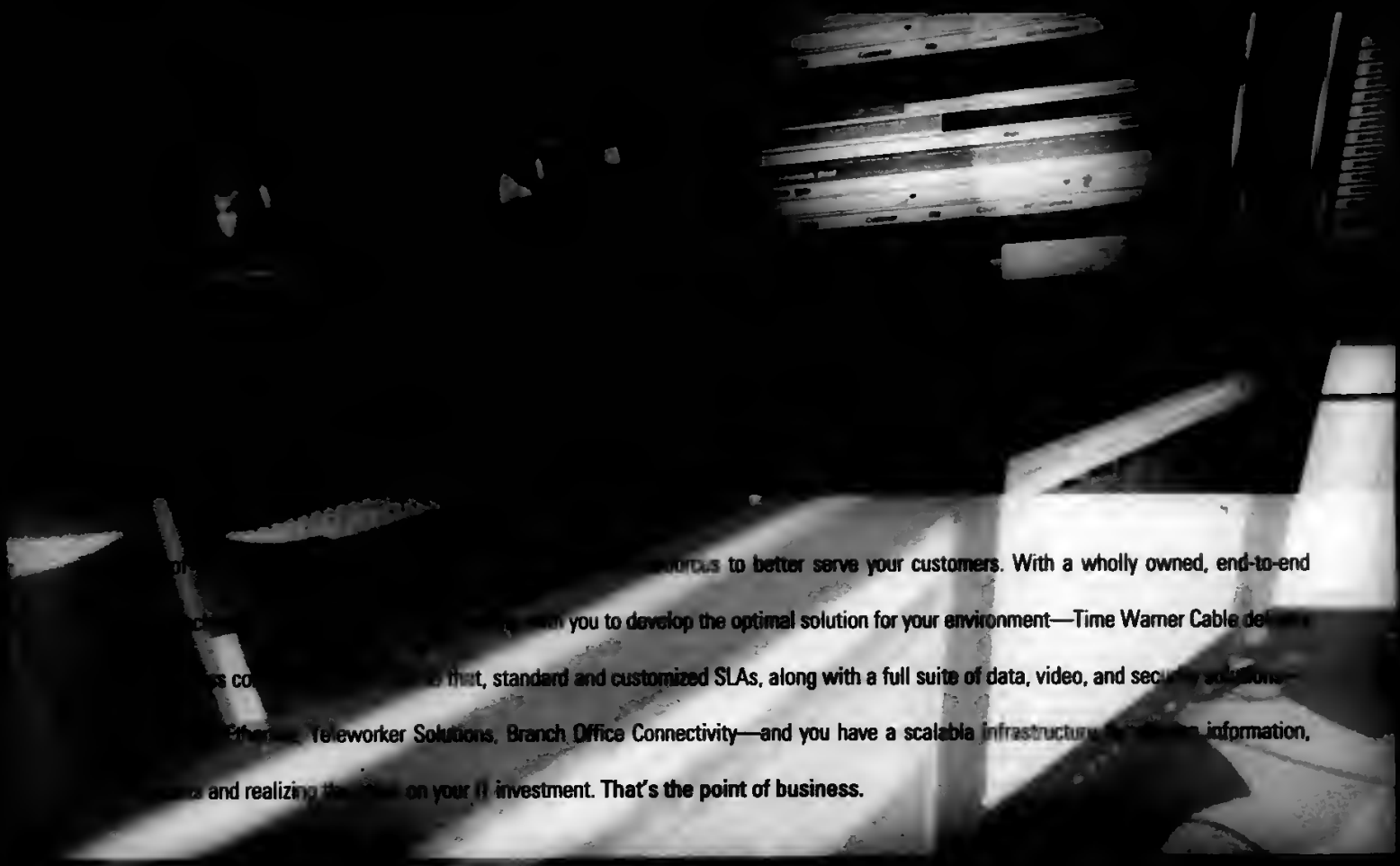

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R&D & IT

A NEW STUDY from Booz Allen Hamilton says there's no relationship between R&D spending and business performance. Amazing, huh? And it's true — sort of. The study, by Booz analysts Barry Jaruzelski, Kevin Dehoff and Rakesh Bordia, *does* report that simply spending lots of money on R&D doesn't guarantee good business results — which is not quite the same as saying there's no relationship between R&D spending and performance.

You can download the study, titled "Money Isn't Everything," at *www.computerworld.com/q?a7310*. Do it now — if only because you'll soon need to explain to your CEO what this study *isn't* saying.

Yes, I know — you're in IT, not R&D. But here's how the dots connect: R&D is in the innovation business. So is IT. Sure, IT also does operations and maintenance. But every new IT project is developing something new. You even call those new things "products," just like the R&D guys do. And if spending on R&D doesn't produce the desired business results, why should anyone expect spending on IT projects to work any better?

If your CEO draws that conclusion, your new-projects budget is headed for the shredder.

Fortunately, to prevent that, you have an ally: that same study from Booz Allen Hamilton.

See, when these Booz analysts looked at the 1,000 publicly traded companies that spend the most on R&D, they didn't really find no connection between spending and results. And luckily, their key findings make nice, simple bullet points for you to show your CEO:

- If you don't spend enough on R&D, business performance suffers.
- If you spend too much on R&D, you won't get enough business performance improvement to justify that spending.
- Nobody knows exactly how much is "too much."
- What matters isn't how much you spend, but how you spend it.

Some companies with moderate R&D budgets get great results. Some with huge R&D budgets get mediocre results. The difference, as the Booz analysts say, is "processes, not pocketbooks."

Does this all sound blazingly obvious? Of course it does. It's just as true about your car as about your R&D (or IT) department. Fail to spend enough on auto maintenance, and your car won't run well. Spend too much, or on the wrong things, and your car won't run any better; you've wasted money.

Frank Hayes, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Then why did Booz do the study? Because it's an article of faith among investors that beefing up R&D is a way of goosing growth. So when CEOs want to show investors that they're serious about corporate growth, they invest in R&D. And investors, seeing the R&D investment, figure that means future growth, and buy in.

But according to the Booz study, that's a myth. More R&D spending doesn't guarantee a return on investment. R&D is no silver bullet. And that myth-busting "no relationship" statement makes perfect sense — *for* investors.

But not for CEOs who still have to figure out how to create innovation, both in R&D and in IT.

So now you have two new items on your agenda. First, you want to make sure your CEO sees a copy of this Booz study. He's probably already seen the headlines; you want to make sure he sees the rest of it, too.

And second, you need to dive deep into the study yourself. Nearly everything these analysts say about R&D is also true of IT. That includes their advice for improving product-development processes by listening to customers, betting on the right projects, improving development speed and cutting product costs.

If you can apply that advice, you can become like those R&D departments that don't under- or over-spend but still get great returns on their innovation investments.

And you'll *create* a clear relationship between your IT spending and business performance — no matter what's going on at a thousand other companies. 57498

SHARK TANK

Not So Strange After All

Help desk manager pilot fish takes this call personally: A very big bigwig's PC is "behaving strangely." "Thinking it was a computer virus, I took the emergency kit and a laptop and prepared for the worst," says fish. "Sitting down at the machine, I surveyed the huge wooden desk, smelled lemon-scented wood polish and noticed no mouse pad. Sure enough, the mouse ball had wax, and the surface of the desk alone did not provide friction. Installed spare optical mouse. Problem solved. Got a very nice letter from the bigwig, too."

Unclear on The Concept

State agency wants to use a bus to travel around the state, auctioning off surplus equipment. "Everything looks good," says a pilot fish helping to set it up, "except they want a laptop to run the auctions live against the surplus database. And it has to have a wireless connection." Why don't you just use a modem? fish asks. Response: "We go to sites that are so remote, they might not have a phone connection."

We Can Do That

Pilot fish creates an image of his signature to be added automatically to his outgoing e-mails. Other users see it and ask for his help creating their own. "One day, I got a message from a notoriously clueless user, asking to have a signature created for her e-mail," says fish. "I replied back with mine showing, and asked her if she would like one similar to mine. Her reply? 'No, I want one with *my* name on it.' "

They Were Such Nice People, Too

This newly hired pilot fish learns his predecessor left suddenly after only a few months, seemingly for no reason. But fish can't figure out why: Everyone at this small accounting firm seems nice and friendly. "There were two office locations across the street from each other," fish reports. "Shortly after setting up remote access to desktops to reduce the number of trips across the street, I was accused of laziness and conspiracy – and fixing the users' problems behind their backs."

It's All About Priorities

Presenter at this technical seminar is about to start her high-tech demo when she realizes that the batteries in the remote control for her projector are dead. But that's not a problem. "The room was filled with network engineers and admins, who were quick to offer up the batteries from their pagers," says a pilot fish on the scene. "Not only was this a chance to show that chivalry isn't dead, but also to prevent any delay of the happy hour that followed the presentation."

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FRANK HAYES ■ FRANKLY SPEAKING

R&D & IT

A NEW STUDY from Booz Allen Hamilton says there's no relationship between R&D spending and business performance. Amazing, huh? And it's true — sort of. The study, by Booz analysts Barry Jaruzelski, Kevin Dehoff and Rakesh Bordia, *does* report that simply spending lots of money on R&D doesn't guarantee good business results — which is not quite the same as saying there's no relationship between R&D spending and performance.

You can download the study, titled "Money Isn't Everything," at *www.computerworld.com/q?a7310*. Do it now — if only because you'll soon need to explain to your CEO what this study *isn't* saying.

Yes, I know — you're in IT, not R&D. But here's how the dots connect: R&D is in the innovation business. So is IT. Sure, IT also does operations and maintenance. But every new IT project is developing something new. You even call those new things "products," just like the R&D guys do. And if spending on R&D doesn't produce the desired business results, why should anyone expect spending on IT projects to work any better?

If your CEO draws that conclusion, your new-projects budget is headed for the shredder.

Fortunately, to prevent that, you have an ally: that same study from Booz Allen Hamilton.

See, when these Booz analysts looked at the 1,000 publicly traded companies that spend the most on R&D, they didn't really find *no* connection between spending and results. And luckily, their key findings make nice, simple bullet points for you to show your CEO:

- If you don't spend enough on R&D, business performance suffers.
- If you spend too much on R&D, you won't get enough business performance improvement to justify that spending.
- Nobody knows exactly how much is "too much."
- What matters isn't how much you spend, but how you spend it.

Some companies with moderate R&D budgets get great results. Some with huge R&D budgets get mediocre results. The difference, as the Booz analysts say, is "processes, not pocketbooks."

Does this all sound blazingly obvious? Of course it does. It's just as true about your car as about your R&D (or IT) department. Fail to spend enough on auto maintenance, and your car won't run well. Spend too much, or on the wrong things, and your car won't run any better; you've wasted money.

Then why did Booz do the study? Because it's an article of faith among investors that beefing up R&D is a way of goosing growth. So when CEOs want to show investors that they're serious about corporate growth, they invest in R&D. And investors, seeing the R&D investment, figure that means future growth, and buy in.

But according to the Booz study, that's a myth. More R&D spending doesn't guarantee a return on investment. R&D is no silver bullet. And that myth-busting "no relationship" statement makes perfect sense — *for investors.*

But not for CEOs who still have to figure out how to create innovation, both in R&D and in IT.

So now you have two new items on your agenda. First, you want to make sure your CEO sees a copy of this Booz study. He's probably already seen the headlines; you want to make sure he sees the rest of it, too.

And second, you need to dive deep into the study yourself. Nearly everything these analysts say about R&D is also true of IT. That includes their advice for improving product-development processes by listening to customers, betting on the right projects, improving development speed and cutting product costs.

If you can apply that advice, you can become like those R&D departments that don't under- or overspend but still get great returns on their innovation investments.

And you'll *create* a clear relationship between your IT spending and business performance — no matter what's going on at a thousand other companies. **57408**

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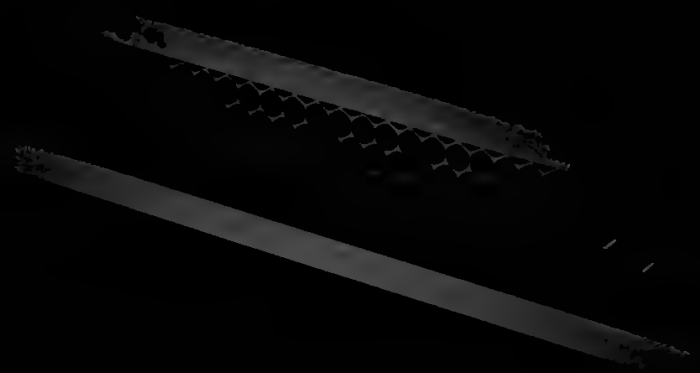
RHYMES WITH HELL



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